

THE IRON AGE

A Review of the Hardware, Iron, Machinery and Metal Trades.

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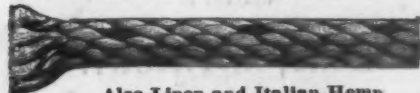


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See Page 23



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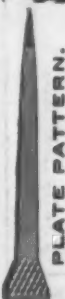
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THE IRON AGE

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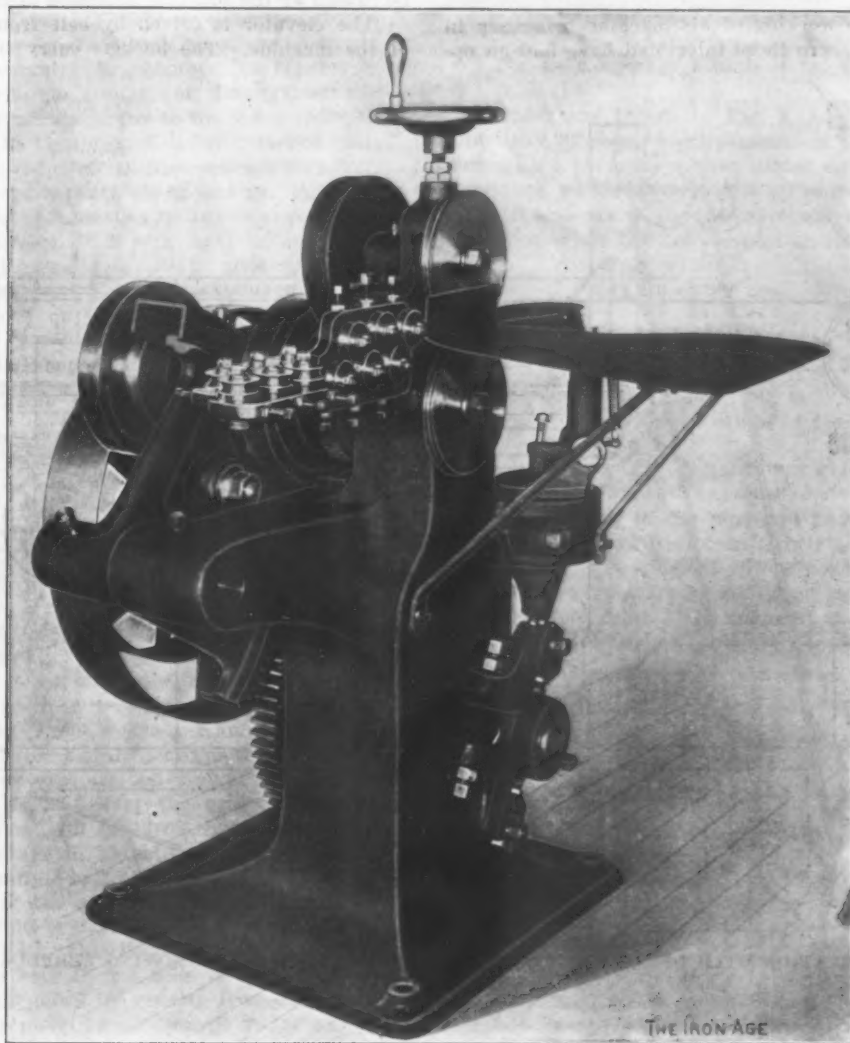
The New Bliss Wire Ring Forming Machine.

A wire ring forming machine of a new design has recently been developed by the E. W. Bliss Company, Brooklyn, N. Y. This is known as the No. 295 continuous wire ring machine and is shown in the half-tone here-with. It is entirely automatic in its action, and may be easily adjusted to produce rings of different diameters and of varying sizes of wire. The construction is heavy and durable, as is indicated by the illustration. The machine is double acting in the sense that it forms a ring

small as $2\frac{1}{2}$ inches in diameter can be made of 3-32-inch wire or smaller. The total weight of the machine is about 1850 pounds.

The Production of Asbestos in 1903.

WASHINGTON, D. C., August 16, 1904.—The annual report of the United States Geological Survey upon asbestos in 1903 states that during 1903 the production of asbestos in the United States was principally from the Sall Mountain, White County, Ga., deposits, with smaller quantities



THE BLISS No. 295 CONTINUOUS WIRE RING MACHINE.

at each forward and backward stroke, or each half revolution, thus having double the capacity of a single acting machine. The wire is fed to the machine continuously from a reel, and the process consists of first straightening it, forming the ring and cutting off the required length. The normal range of the machine's work includes the making of rings of from 4 to 28 inches in diameter in stock up to 9-32 inch in size. Rings from 4 to 7 inches in diameter are usually made of 3-16-inch wire, 7 to 10 inches of $\frac{1}{4}$ -inch wire and 10 to 28 inches of 9-32-inch wire. The feeds operate during both the forward and backward strokes of the sector gear, making two rings each revolution, as before stated. This, however, includes only rings up to 14 inches in diameter. Those from 14 to 28 inches require two strokes or one revolution of the large gear. By the addition of a special attachment rings as

from near Dalton, Berkshire County, Mass., New Hartford, Conn., and Grand Cañon, Arizona. The total quantity amounted to 887 short tons, valued at \$10,760, with an average value of about \$19 per ton. This production is a decrease of 118 tons in quantity and an increase of \$560 in value as compared with that of 1902, which amounted to 1005 tons, valued at \$16,200. This relatively large increase in value is due to the high price per ton received for the product from the Grand Cañon in Arizona, which averaged about \$150 per ton. Besides the above production, there were reported about 4000 tons of crude asbestos rock obtained in development work, which have not been treated in any way, and are for the most part still on the mine dumps. The largest quantity of asbestos that has ever been produced in the United States in a single year is 1200 tons. This production

was obtained in 1882 and was valued at \$36,000, or \$30 per ton.

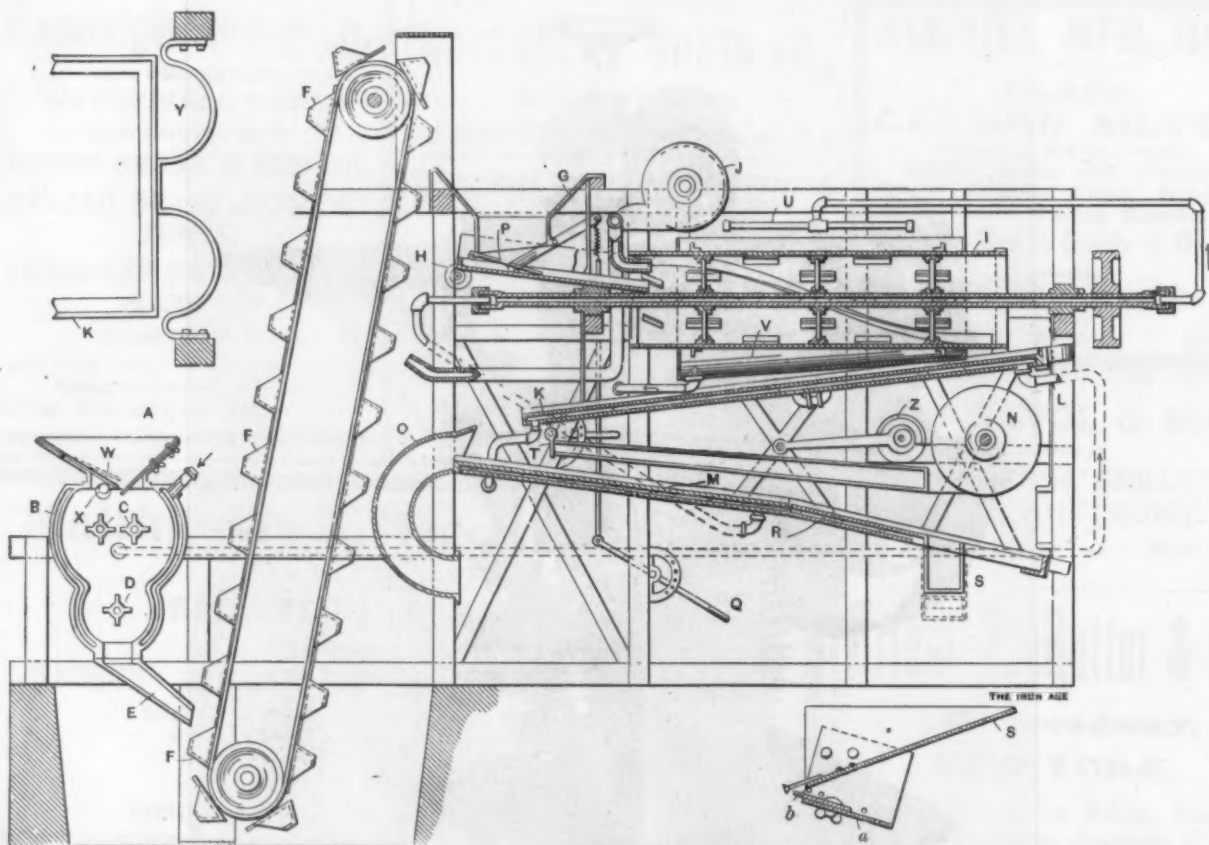
A very large proportion of the demand for asbestos in the United States is supplied by the imports, which are chiefly derived from the Canadian deposits of the chrysotile variety. In 1903 the total value of the imports from all sources was \$689,327, of which \$657,269 was unmanufactured and \$32,058 was manufactured. In 1902 the imports aggregated \$762,432.

The Porter Galvanizing Process

Under the heading "Galvanizing Small Articles," a description was printed in *The Iron Age* of May 26 of a process invented by George Porter of San Francisco, Cal., for removing the excess metal on galvanized articles, so as to leave them evenly coated and preserve unobstructed any irregularities in their surfaces, such as screw threads, slots, &c. Since that time the inventor has been demonstrating the working of his machine in a shop in Brooklyn, N. Y., where those interested have had an op-

ported movable bottom, W, over which the articles pass, and is constantly vibrated by cams X, mounted upon a hollow shaft to allow a natural circulation of air through it. The casing is in the form of two intersecting cylindrical segments, having double sides to accommodate a water jacket. Within the upper and larger part of the casing are two horizontal beaters, C, the shafts of which are also hollow and are journaled within the casing, and within the lower part are similar beaters, D, all being driven by belt. The beaters C rotate outwardly in opposite directions, so as to throw the descending articles violently against the walls of the casing, and as they fall they are again caught by the beater D and thrown against the lower part of the casing. This agitating removes most of the surplus metal, which falls with the articles through the chute E into the ascending buckets of the elevator F. The water jacket serves to keep the casing cool and prevent undue heating of the parts which would be caused by the constant accession of new hot metal.

The elevator is driven by belt from the main shaft of the machine. The buckets carry the coated articles



SECTIONAL ELEVATION WITH DETAILS OF THE PORTER APPARATUS FOR REMOVING SURPLUS METAL FROM COATED ARTICLES.

portunity of inspecting the quality of work turned out and its principle of operation. It has been thought interesting to supplement the article previously referred to with a description of the machine itself.

With the old process of galvanizing it has always been exceedingly difficult, when not altogether impossible, to galvanize very small articles, such as tacks, screws, hooks and screw eyes, without having a large percentage of them stuck together in masses, and even those pieces which maintained their individuality were usually so roughly coated as to be unfit to use. The nails or other articles to be coated with tin or zinc are first treated as in the ordinary process of galvanizing, by being dipped in acid to clean their surfaces, and then submerged in molten coating metal. After being taken from the metal bath, instead of being shaken into water, the articles are introduced into the machine, the construction of which is shown in the accompanying line drawing.

While the articles are still hot and the metal on their surfaces is soft they are shaken into the hopper A and are delivered into the casing B. The hopper has an in-

up to the upper end of the elevator and, inverting, discharge them into the hopper G, from which they fall into the chute H. This is suspended by elastic arms, and is given a shaking motion by an eccentric, so as to gradually advance the material and finally deliver it into cylinder I. This is mounted upon an approximately horizontal hollow shaft journaled upon the frame as shown, and is revolved by belt connected with the main driving shaft. Water is circulated through the hollow shaft to keep it cool. From a perforated pipe, U, extending above the cylinder water is discharged over the surface of the cylinder to prevent excessive heat within the apparatus. This water is collected in a hopper, V, and conducted away for further use through a screened outlet. The interior of the cylinder is provided with lifters and agitators so disposed as to constantly lift and drop the articles, and at the same time gradually pass them toward the discharge end. A blast of air from the fan blower J is delivered through a discharge pipe to the interior of the cylinder to further cool the passing articles and the cylinder.

At the discharge end of the cylinder the articles are delivered upon an inclined suspended shaking table or chute, K, having a double bottom, as shown. Water is circulated through the space formed between the double bottom, which is supplied through the pipe L, having a flexible section so as not to interfere with the shaking motion. The shaking advances the material along this chute until it is finally delivered at the lower end upon another chute, M, beneath the first chute and inclined in the opposite direction. The second chute also has a water jacketed bottom, and is supplied through a pipe connection and flexible hose. Both these chutes are suspended so that the angle may be altered to increase or decrease the rate of speed with which the material is passed along. The ends of the chutes are connected with the stationary timbers of the frame by springs Y, curved as shown in the detail at the left, their ends being connected to the frame and their centers to the chutes. The elasticity of the springs allows sufficient movement for the chutes and serves as a cushion. The two chutes are connected together by cross bars, as shown, and are reciprocated by the eccentric Z. Another fan blower, N, is arranged to discharge a blast of air against the articles as they fall from the upper to the lower chute to cool them and blow the lighter particles of detached coating metal into the curved chute O, from whence they drop into a receptacle placed beneath the discharge. A valve, T, on the air discharge permits regulating to prevent the galvanized material, when it is of a light nature, from being blown away with the loose metal. The upper fan J has a second discharge, which is directed against the buckets of the elevator on its descending side to keep them cool.

The feed from the hopper G upon the chute, which delivers into the cylinder, is regulated by a gate, P, hinged to one side of the hopper and connected by levers to the handle Q, which allows the closing of the gate to regulate the rate of discharge with which the material is passed through the rest of the apparatus. R is a screen bottom chute, which receives the articles and whatever detached metal has continued with them up to this point. It has a detachable solid bottom which may be placed over the screen when the material which is being passed is of a nature that is apt to catch in the meshes of the screen. When the screen is left uncovered nearly all of the remaining detached metal passes through it and is carried by a solid plate corresponding to the double bottom of the chute M down to a receptacle placed beneath the opening at its lower end. The galvanized material and larger pieces or buttons of detached metal which will not pass through the screens are delivered to the chute S. This is inclined so as to deliver the articles at right angles to their previous path and drop them into kegs or boxes in which they are to be shipped. The detailed view shown just beneath it indicates the manner in which the final separation of the galvanized articles and loose metal is made. A slide, a, inclined in the opposite direction from S has an adjustable lip, b, which may be extended or withdrawn until it just fails to catch the galvanized articles as they fall by gravity from the chute S. The lighter loose metal is not thrown as far as the heavier material, and is caught on this lip and slides down into a suitable receptacle.

Six advantages are claimed for the machine by the inventor: It reduces the cost of labor, as with the old process pieces had to be shaken a few at a time, while with this machine they are handled at the rate of 2000 to 3000 pounds per hour; it reduces the cost of metal, as there is less noneffective metal left on the coated material, and it is not necessary to have the temperature of the bath so high as to cause any considerable vaporization of the spelter; it cools the material without bringing it in contact with water, hence preserves its original malleable condition instead of making it brittle; it will handle anything from a tack to a 60-penny nail, and it does not require a skilled mechanic to operate it.

The International Specialty Company, 432 Fair Oaks street, San Francisco, Cal., is the owner of the patents on the machine.

Julian L. Yale & Co., Chicago, Western sales agents for the Lackawanna Steel Company, have been granted an extension of territory which gives them the entire

Western and Northwestern field. They have appointed Rank & Goodell, St. Paul, Minn., subagents.

The American Forged Steel Pipe Flange.

For use in connection with riveted steel pipe and other sheet steel and iron work, the American Forged Steel Flange Company, 64 Wabash avenue, Chicago, is producing a form of forged pipe flanges. The flanges, a num-



Fig. 1.—A Group of Flanges of Various Sizes.

ber of which are shown in Fig. 1, are forged from a circular disk of steel, and by means of special dies are formed with a perfectly square corner on the inner edge of the flange, as shown in Fig. 2. The flange is of sufficient thickness to withstand extremely high pressure when in use, while the hub, or portion that extends over

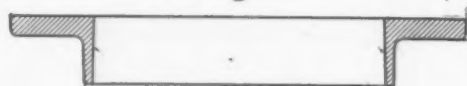


Fig. 2.—Cross Section of One of the Flanges.

the pipe, is thin enough for punching, which is the essential point required when connecting to riveted pipe, as it allows the punching of the pipe and flange at the same time. The flange can be driven tightly on the pipe, and the rivets may be compressed with a power riveter without fear of breaking from driving or riveting, thus insuring a perfect joint. The manner of connecting the

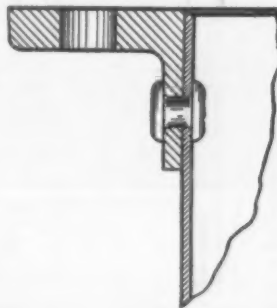


Fig. 3.—Cross Section through Rivet Hole, Showing Method of Attaching to Pipe.

flange to the pipe is shown in Fig. 3. The flanges are usually furnished without bolt or rivet holes. They are forged from the best grade of soft steel and are made in ten sizes, to fit piping from 3 to 14 inches in diameter, inclusive.

Destructive Drought in Germany.—A phenomenal drought has caused great damage throughout Germany this summer, which, according to United States Consul-General Mason, at Berlin, threatens to paralyze immediately many important branches of industry. The damage is not alone to crops, although that is bad enough; but the lack of rain has a direct effect on means of transportation. Germany is traversed by a network of canals, which are the highways of a large commerce upon which some of the largest industries of the empire depend. Rail rates are so high that the great bulk of coarse and heavy freight, such as coal, ores, metals and lumber, is carried on the canals. The canals are fed by rivers, and the unusually light rainfall this summer has caused low water in nearly all the standard waterways.

The Theisen Centrifugal Gas Washer.

The utilization of waste gases, such as are produced in blast furnaces, coke ovens, &c., for internal combustion engines and other industrial purposes, requires that they first be thoroughly purified. Many schemes for accomplishing this have been tried, with varying degrees of success, but the objection to most of them has been that they were inefficient or uneconomical in their performance. Recently an apparatus has been invented in Germany by Eduard Theisen of München, which has demonstrated its ability to perform the work very satisfactorily. This is known as the Theisen centrifugal gas washer and is illustrated herewith.

The fundamental principle of the process is the forc-

paratus, where the coarse dust is thrown into the rotating layer of washing water and is immediately withdrawn near the gas inlet, while the lighter particles are being dampened by the steam. The moistened particles, continuing their way, are gradually absorbed and condensed with the steam by the passing washing water. The water deposits the dust which it has taken up in a settling tank, where the water is cleaned and used over repeatedly.

The required degree of purity is the factor that determines the power necessary to wash a certain quantity of gas. It is stated that from 4 to 5 horse-power is suf-

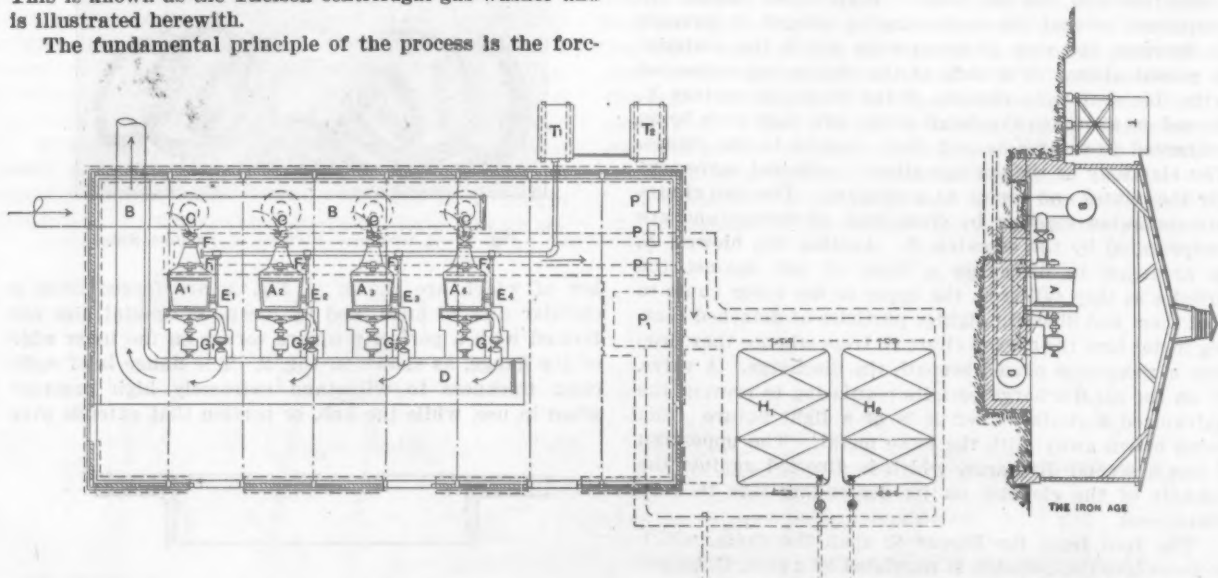


Fig. 1.—Plan and Elevation of a Gas Purifying Plant Containing Four No. 6 Theisen Washers.

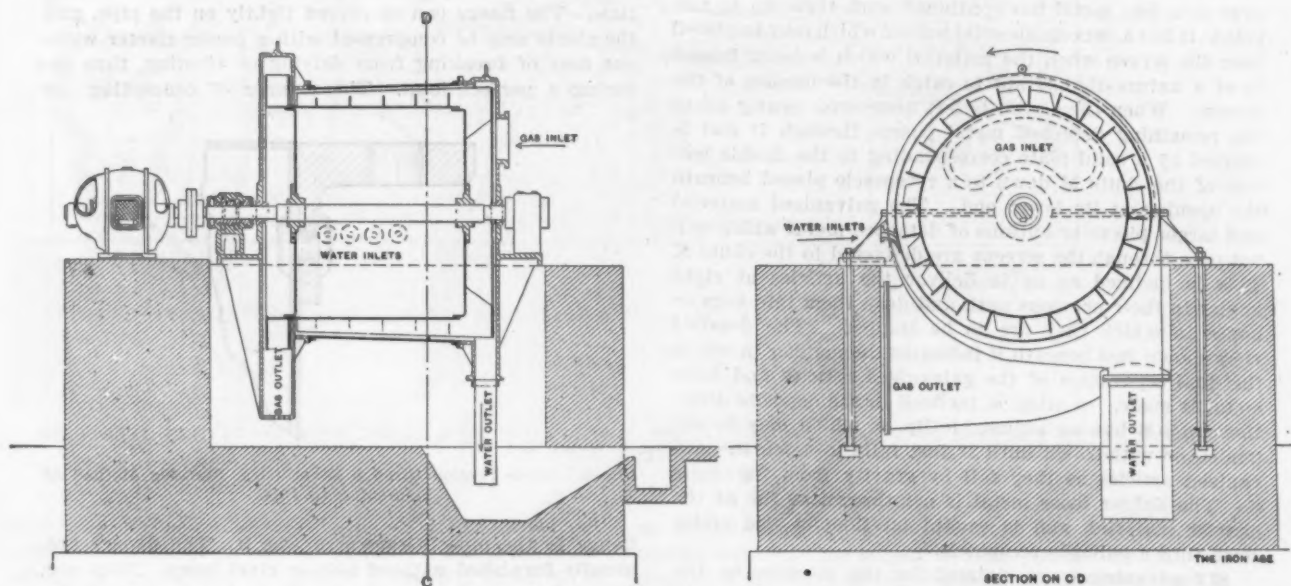


Fig. 2.—Longitudinal and Transverse Sections of a Theisen Centrifugal Gas Washer.

ing of a counterstream of water in the form of a thin liquid film into frictional contact with the entering gas to absorb and condense its impurities. The effectiveness of the action is enhanced by causing the hot gases to meet initially the coldest portion of the circulating fluid. Thereafter the fluid traveling in a long spiral stream in the opposite direction to the gas thoroughly abstracts the heat from the gas and is partially vaporized. Thus the gas is cooled very rapidly, and simultaneously is moistened by the steam produced. During this part of the process the fine flaky particles of dust in the gas are separated from it, assisted by the cooling and condensing of the mixture of warm damp gas and steam.

The gas next enters the centrifugal part of the ap-

paratus to purify 35,315 cubic feet of blast furnace gas per hour where the allowable impurity is 5 per cent.

In the accompanying line drawings, Fig. 1 shows the general arrangement in plan and elevation of a plant containing four centrifugal gas washers. The unpurified gas is conveyed in the pipe B and follows the course indicated by the arrows. D is the pipe through which the gas passes after being washed, and C is the regulating valve. The tanks from which the washing water is supplied are shown at T1 and T2. A1, A2, A3 and A4 are the washing machines, each driven by its individual motor G. The water is admitted to the machines through the inlets E1, E2, E3 and E4, and after being used is discharged through the outlets F1, F2, F3 and F4, from

which it is conveyed by pipes not shown to the settling tanks H1 and H2. From these it passes to the pumping tank P1 and is delivered by the pumps P, P and P back to the tanks T1 and T2. This plant, with four of the No. 6 washers, will clean 120,000 cubic feet of warm gas per minute.

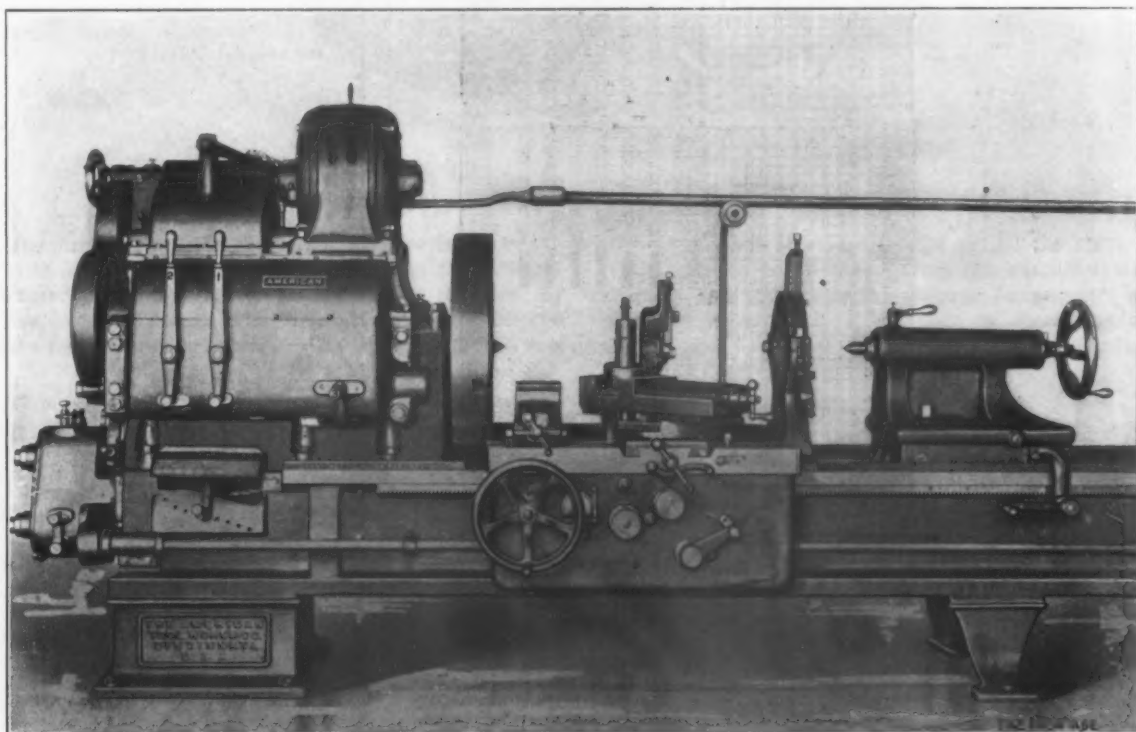
Fig. 2 gives a longitudinal and transverse section of one of the washers, showing its construction more in detail. The water enters through the four inlets shown and comes at once in contact with the spiral blades on the drum, causing a film of water to work toward the gas inlet, where it meets the dust and impurities in the gas. The impurities are removed and fall to the bottom of the casing, where they pass out through the water outlet. The washed gas is then discharged through the gas outlet, as shown. The means of driving the drum by a direct connected electric motor is clearly indicated in the longitudinal section.

According to the claims of the inventor, this apparatus, used in connection with a blast furnace plant to purify the stove gas, will effect a saving that will pay for its cost in a little more than a year. If the air heaters

in a glass case just across an aisle from the big engine, in the space occupied by the International Steam Pump Company. There are two of them now operating, each working a direct connected pump and throwing their tiny streams into a copper tank which stands between them.

Improved Electric Drive on a 30-Inch American Lathe.

An unusually interesting arrangement of motor drive is provided on the 30-inch American engine lathe shown in the accompanying illustration and built by the American Tool Works Company, Cincinnati, Ohio. In common practice motor driven lathes are fitted with variable speed motors, even though their cost is greater. The important feature of this drive is that a constant speed motor is employed, using either direct or alternating current, and the various spindle speeds are obtained mechanically through an all geared head stock. The essential parts of the latter are a patented clutch and gear



AMERICAN 60-INCH LATHE DRIVEN BY CONSTANT SPEED MOTOR.

for heating the blast air are supplied with the ordinarily dirty gas they will require cleaning probably every four weeks to preserve satisfactory operation, as a large quantity of dust in the gas very soon materially impairs the efficiency of the heaters. Such a frequent stopping of the work results in a considerable waste of heat, which becomes an important item in the course of a year. It is this loss that the washers are intended to prevent, and at the same time the higher temperatures which they make possible are of advantage in effecting another great saving.

The apparatus is made in Germany by the inventor, at München; in England, by Richardson, Westgarth & Co., Hartlepool, and in Belgium by the Société John Cockerill, Seraing. Gas washers of this type are now in operation for the purification of 14,000,000 cubic feet of gas per hour, and are in course of erection for 21,000,000 cubic feet per hour.

Persons visiting the big engine in Machinery Hall at the St. Louis World's Fair, where the enormous Allis-Chalmers-Bullock 5000 horse-power steam electric unit is the largest ever shown at an exposition, will have an opportunity of seeing beside it the smallest operating steam engines in the fair. These little fellows, which are made with an accuracy and finish like clockwork, stand

mechanism of simple form, in that it has a small number of gears and shafts. By manipulating levers 1 and 2, shown at the front of head, and 3, shown at the lower right hand corner of the head, 16 distinct and positive spindle speeds are possible, ranging in geometrical progression from 3.8 to 246 revolutions per minute. This wide range, obtained entirely through mechanical means, is sufficient to cover the ordinary work of this lathe. The simple construction allows the gears and shafts to be made of large diameters and hence of great strength. The change gear mechanism is neatly incased and all parts are readily accessible for lubricating.

The motor is rigidly mounted above the head stock. A nonreversible constant speed motor may be used if desired, as the reverse is obtained mechanically through the horizontal rod mounted above the lathe, where it is out of the way, yet conveniently near the operator. The advantage of this device is that the strain on the motor caused by frequent or sudden reversing is avoided. Starting and stopping, as well as reversing of the machine, are readily accomplished without interfering with the motor, which may be allowed to run at a continuous constant speed.

The lathe may be converted at any time into a belt driven machine by replacing the motor by a single pulley mounted on the upper shaft.

Colorado Fuel & Iron Company's Affairs.

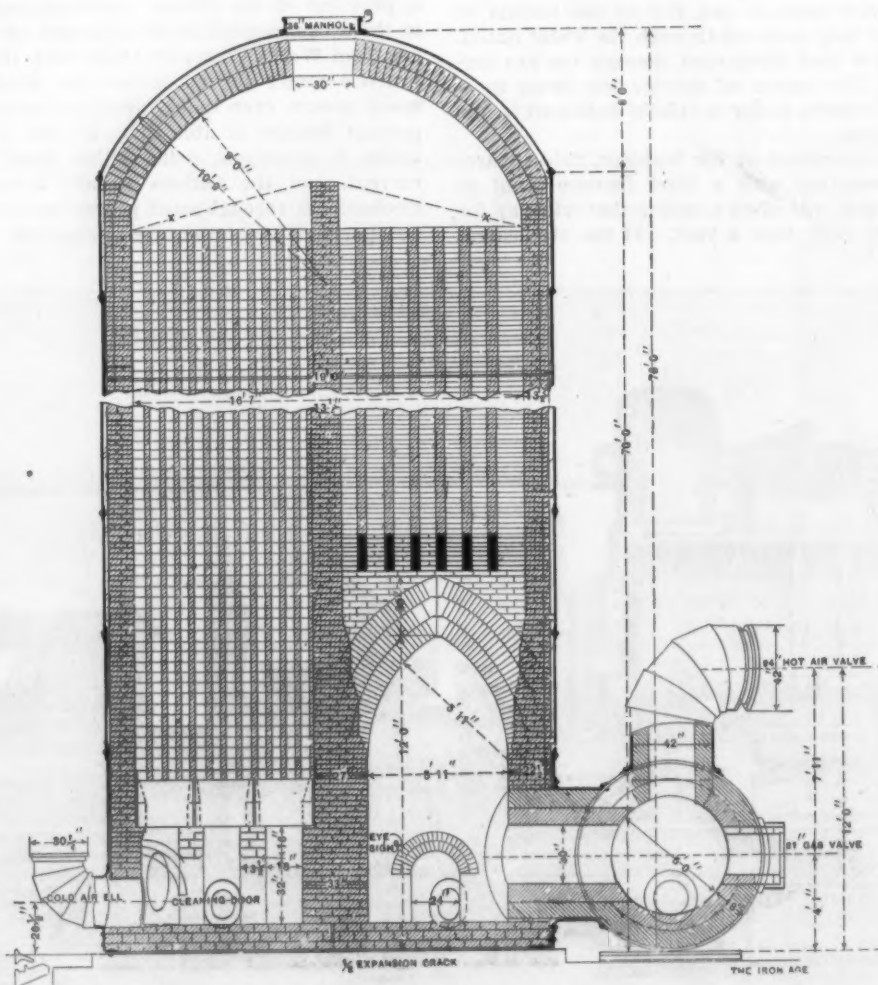
The Colorado Fuel & Iron Company, Denver, Col., has exercised its option on the Sunrise iron mining properties in Central Wyoming, involving over 1000 acres, embracing 71 claims of about 20 acres each. This is the consummation of a contract made several years ago by which the company operated these mines, with the right to purchase, but the properties developed such mineral wealth that the owners sought by legal means to prevent the exercise of the option and the sale of the

tion. The same may be said of the rod mills, wire mills, nail factories, &c.

The Hartman-Kennedy Fire Brick Stove.

BY JOHN M. HARTMAN AND JOHN S. KENNEDY.

A plant consisting of three fire brick stoves and an equalizer was designed by us for the Musconetcong Iron Works, at Stanhope, N. J., and was recently erected under



Sectional Elevation.

THE HARTMAN-KENNEDY FIRE BRICK STOVE.

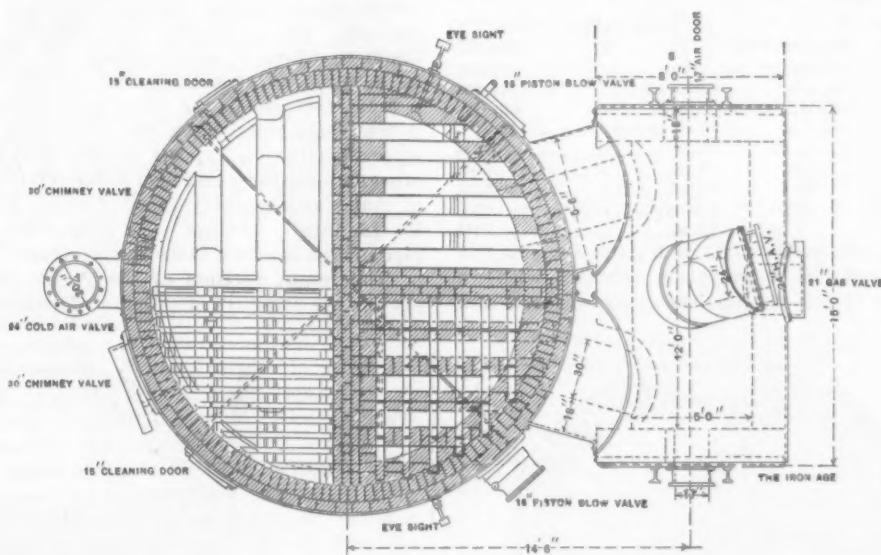
land. The company also owns an extremely large acreage of coal lands, together with 3200 coke ovens, and the iron, coal and coke are largely used in its plant at Pueblo. Official denial is made of the sensational stories printed in Colorado papers to the effect that millions of dollars are to be spent shortly in enlarging and improving the steel works, as officers state that the present equipment suffices for the present demand and that their whole effort now is being directed to reorganizing the company's finances.

The company has five blast furnaces completed, all large and modern in their appointments, with the sixth one well advanced, but upon which construction has been temporarily suspended. The Bessemer plant is entirely new and well equipped, and capable of doing great work. The rail mill is now making more than 1000 tons per day, and while the material is on the ground for the installation of a new one of greater capacity, the officials do not, under the existing demand, feel pressing need for its installation and it will be held in abeyance until conditions improve. The basic open hearth plant of six 50-ton furnaces is in operation and is a thoroughly modern, up to date plant, working with perfect satisfac-

the supervision of John S. Kennedy, the general manager of the works. In the construction of the stoves the following improvements were designed: Each stove is provided with an external combustion chamber, which is a horizontal cylinder 12 feet long by 5 feet diameter in the clear. The gas is admitted to this combustion chamber by a 21-inch opening, and after its ignition passes into the stove by two 30-inch necks. The object of these external chambers is to make perfect combustion of the gases before passing them into the stoves, to provide for the deposition of flue dust where it can readily be blown out and where any fused or clinkered material can be easily reached and removed. The scorification of the brick work composing the arches and walls of stoves provided with combustion chambers in the first pass, caused by the high temperature and the fusing of ore dust on the fire brick work of the stove walls, is a serious matter, and the repairs are expensive. With the external combustion chambers we find that nearly all the flue dust is deposited outside of the stoves and that it is readily removed. Another great advantage is that the gas is admitted to the stove through two passages, thus breaking up the volume of gas into two currents, which

insures more thorough oxidation and also overcomes the dangers incident to the impinging upon the stove walls of a highly heated gas flame confined within narrow limits. The outside combustion chamber increases the heating surface and also allows for additional regenerative space in the stove itself.

and the regenerators are filled with 2 x 2 inch passages with 1½-inch walls. The plant is equipped with two recording Uehling-Steinbart pyrometers, one of which is attached to the hot blast main on each side of the equalizer. The records taken from the stoves show the familiar saw tooth line caused by the decrease in tempera-



Cross Section of Stove.

The stoves are of the Hartman two-pass type, provided with a heavy 18-inch partition wall in the first regenerator pass. The stoves are 19 feet in diameter by 76 feet to top of dome. The three stoves contain 106,500 square feet of heating surface. The openings in the first

ture of the hot blast during the period the stove is on wind, but the cards taken from the equalizer show a straight line, indicating the average temperature of the blast. This stove plant has been in operation for six months and there has been no difficulty in keeping the

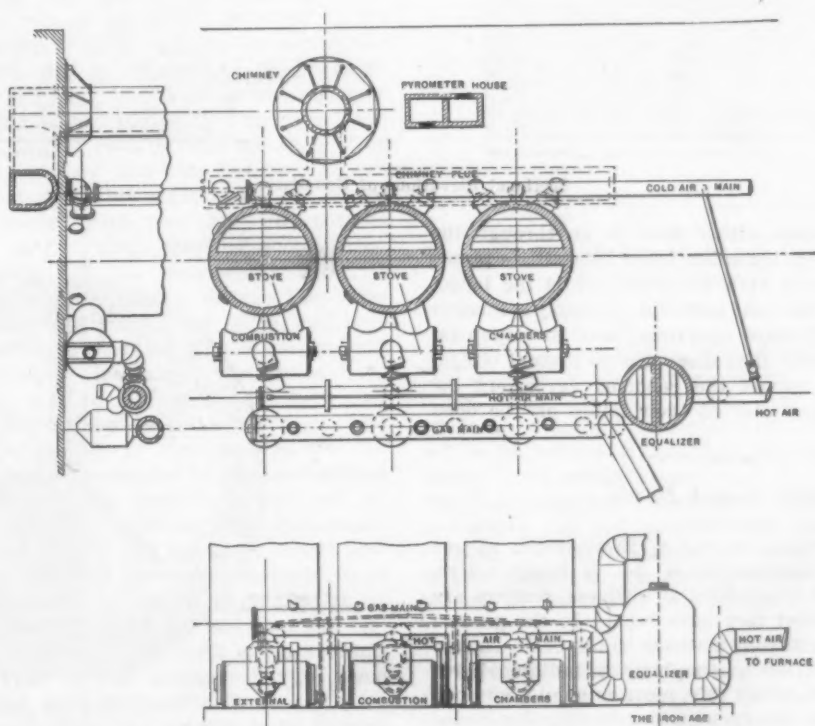


Fig. 3.—The Upper Drawing Shows the Plan of the Stoves and the Lower Drawing is an Elevation of the Equalizer and External Combustion Chambers.

regenerator pass are 9 x 9 inches, with 9-inch walls, and in the second pass 5 x 5 inches, with 2½-inch walls. These stoves will heat 22,000 cubic feet of air per minute and with the equalizer will give an average uniform temperature of 1200 degrees.

The equalizer, which is the first to be erected in this country, is 12 feet 6 inches diameter by 19 feet 9 inches to top of dome. There are two passes for the hot blast,

stoves clean, and the equalizer has proved thoroughly satisfactory. Each stove is supplied with two chimney valves, which insures a more regular distribution of the hot products of combustion in the second pass and a more uniform draft. The first application of two chimney valves to a fire brick stove was made at Andover Furnace, Phillipsburg, N. J., April, 1885. The first patent for an equalizer was granted to F. W. Gordon in 1886.

The Southern Coal Mining Situation.

Latest reports from Alabama indicate the determination on the part of the large coal mining companies to fix their own terms for miners' wages. The Sloss-Sheffield Steel & Iron Company has posted its own scale of wages at its mines, which compares as follows with the union scale paid last year, both scales being based on the market price of pig iron:

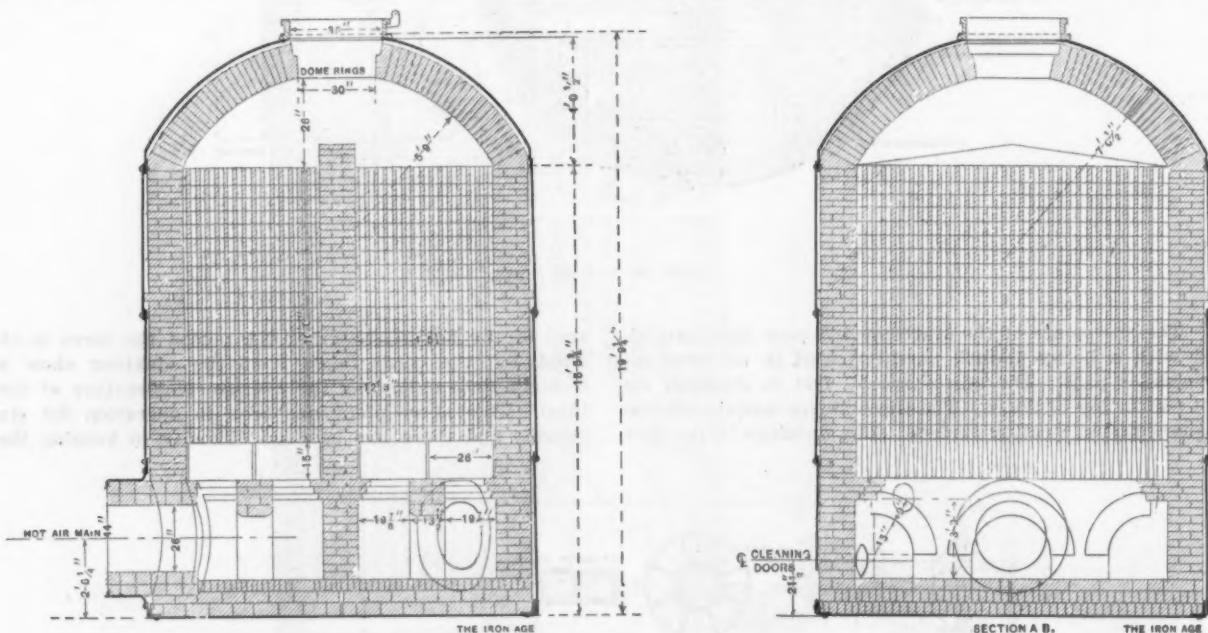
Last Year's Scale.		Sloss-Sheffield Scale.	
Price of pig iron	Miners' wages per ton of coal.	Price of pig iron.	Miners' wages per ton of coal.
\$8.00 or less.....	\$.47½	\$9.00 or less.....	\$.45
9.00.....	.50	9.50.....	.47½
9.50.....	.52½	10.00.....	.50
10.50.....	.55	11.50.....	.52½
11.50 or over.....	.57½	12.50.....	.55
		13.00.....	.57½

The Alabama Consolidated Coal & Iron Company is reported to have signed a temporary contract with its union miners, as it has no convicts to draw from, and

than for many years past. This also brings about a reduction in the quantity of pig tin used, with the result that there will be large stocks of both carried over until next year.

The advance in the price of sugar will have an important effect on the prosperity of the Hawaiian Islands and our own home growers of beet sugar. Owing to the low price of sugar for about three years past, trade between San Francisco and the Hawaiian Islands has fallen off. But with this improvement it will go back again to where it was; indeed, our exports there may be larger than ever they were, because there has been a great increase in the sugar production of the islands. A few years since, when the latter were at the high tide of prosperity, our exports thither of iron and steel and other manufactures exceeded \$5,000,000 in a year; and half of that was machinery, most of which was manufactured in this city. Another very large item was sheet iron pipe, which is also a home manufacture.

The recent decision of the Pacific Mail Company to prevent its steamers stopping at Japanese ports until all



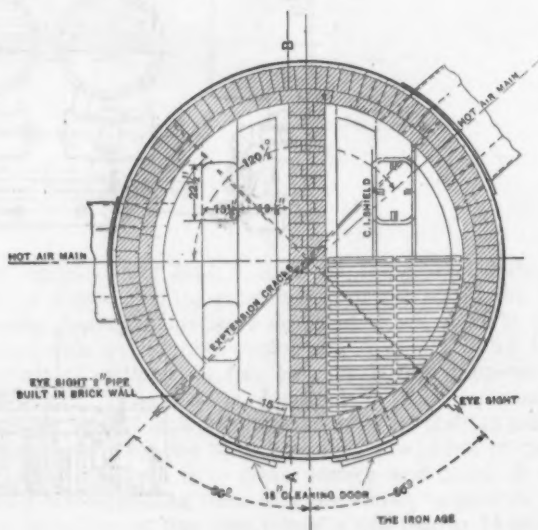
Sectional Elevations of Equalizer.

in case of strike would either have to go through the process of introducing nonunion labor into all its plants or would be absolutely at a standstill, while the larger companies have convict coal sufficient to supply a number of furnaces. The furnace operators have no organization and it would seem that there are no mutual obligations among them, except the reported agreement between those who have started their mines on the open shop basis.

Pacific Coast News.

SAN FRANCISCO, CAL., August 6, 1904.—Work at our various foundries, machine shops, &c., is fairly active, although, as in most other lines of business, matters are quiet compared to what they have been. In the general hardware and iron and steel business, trade has been fair for this time of the year, particularly in building hardware. Had it not been for this, matters would, without doubt, have been dull. The exchanges at the Clearing House for the month of July were somewhat smaller than those for the same month last year, but the falling off was but slight. Large imports of gold from Japan, month after month since last December, have helped to swell the clearings.

We have been looking, as usual, for the outcome of the crops, as have the industrial and financial circles of the East, and while our farmers and orchardists will be reasonably prosperous this year, a certain proportion of them will be disappointed. There has been a great falling off in the salmon pack of the North, at least 40 per cent., which means a very large reduction in the amount of tin plates used. The total will be much less



Cross Section of Equalizer.

danger from hostile cruisers has passed will lessen our Oriental exports considerably. Since the beginning of the year the greater part of the merchandise shipped on these steamers was for Japanese ports. This was more particularly the case in hardware, machinery, bicycles, steel rails and other articles of that kind. Now this will be cut off completely. The loss will be felt particularly by Eastern manufacturers and merchants, inasmuch as hardly 40 per cent. of these goods originated on the Pacific Coast.

J. O. L.

The Methodical Distribution of Shop Costs.—I.

BY H. H. KRESS.

Shop records and systems have become a matter of great importance in large manufacturing plants, concerning which much has been written. Many systems have been advanced, but the devising of a simple, effective and economical system which includes the preservation of an accurate record of the estimating cost of work is evolved with considerable careful study and thought. The fault among existing systems is that they are not complete. Trouble often arises in growing concerns because the old methods become antiquated and the shops daily increasing their facilities in output do not give proper consideration to the compiling of the costs of finished product.

Owing to the fluctuations in the price of iron, fuel and supplies manufacturers are able to purchase at low prices at certain periods, and only at market prices at other times. This has led to the difficulty in establishing the true cost of production. Competition is great, and where estimates of expenditures and returns are not worked out completely the manufacturer is tempted to meet the selling prices of his competitors without being certain that the work will insure profit. The alert foundryman to-day seldom quotes pound prices on foundry work in an off-hand manner by simply looking over the blue prints and patterns. The costs must be estimated under fair conditions and the selling prices based on the actual cost, with a certain percentage added for the gross and net profit. On all large inquiries for work due allowance must be made for a rising market, and where the shop has no contracts for material, or if the work will require additional contracts to be made, the estimate must be figured accordingly. Cautious managers use the latest methods and strive to arrive at satisfactory results with the least amount of attention to details, endeavoring to keep an intelligent oversight on the prospects and progress of their business by methodical comparisons. Indeed, this is required of the manager by all corporations operating plants of to-day, and generally they desire that he shall know the exact and separate cost of every job that goes through the shop. The author will endeavor to show how this has been accomplished in a large manufacturing plant which has, in addition to a large foundry with core room and pattern storage building, a pattern shop, machine shop, fitting shop, blacksmith shop, cleaning department with its tumbler room, office and draughting room. The principles could be applied to a great many shops, and it is believed that a complete exposition of the system will be of widespread interest and value. The forms have been developed with careful deliberation, as have also the methods of distributing and dividing the costs. The progress will be explained step by step, showing how the records are treated when an inquiry is received and an estimate made of it, when the order is booked and entered and the work recorded in its various departments until it is finished and shipped and the profit noted; how the records are transferred by convenient methods so as to permit quick reference and afford an indication of the progress of the work at any time, and that the correct distribution of costs is not the work of an accountant merely, but rather of an engineer having some knowledge of the best accounting methods.

In order to make available the benefits to be derived from comparisons the cost of maintaining a system of this sort is not high compared with the advantages. The illustrations are shown with their headings in full, together with the size and color of each. Loose leaf books are used, making the system perpetual and easily adapted to changes for any line of work.

Operating Expense.

First of all, in calculating the cost of running a plant there are certain fixed charges for maintenance, or, as they are called in this system, the "operating expense." This includes rent, if there is any, salaries of directors and officers, office force, superintendents, foremen of the

various departments, engineers, firemen, watchman and all help on the nonproductive labor salary list. General repairs to the plant, insurance, advertising, minor improvements and depreciation of the plant are also accounted for as a part of the operating expense. Depreciation should first be taken as a small part of the total value of a plant, and be increased each succeeding year as wear and tear become greater. The various expenses connected with the office, such as telephone service, stationery, incidental office expenses and various supplies for the different departments, including coal for the boilers, lighting, heating and water supply, are all finally

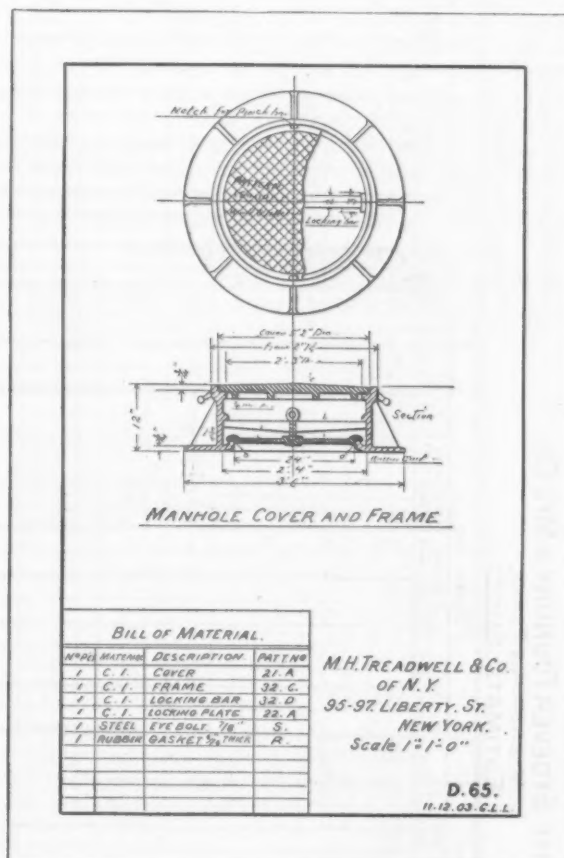


Fig. 1.—Plan and Section of Manhole Casting, with Frame and Cover.

included in the operating expense and summed up under the heading in the general ledger. This operating expense, being previously figured, may be loose leafed into terms of a certain percentage of the productive labor, which percentage is added to the total shop costs, as shown in the estimate sheet later on. From time to time this percentage will change, according to the size of the productive pay roll account, and should be frequently checked. It will be shown how the debit and credit sides of this account in the general ledger will approximately balance at the end of each month.

Estimating.

In compiling the estimate sheet illustrated herewith the author has not attempted to use the exact figures for the work in question, but has taken arbitrarily the first ones that came to his mind. They suffice, however, as they are intended only to give a clear idea of the system, making it plain, concise and at the same time complete. The description is taken from the author's own experience after having noted the results covering the past two years.

A simple example of a piece of work to be done has been taken, but it serves to show the general practice which may be applied to conditions existing in most manufacturing plants, whether they have more or less departments. Fig. 1 presents a print of the complete working drawing of a cast iron manhole cover and frame, showing it in plan and section. The inquiry is

iron part of the plant equipment accounts. These stock accounts are, therefore, only considered at their true valuation in the inventory, the total material for the work, as estimated, being added to the total cost. The item of freight is also inserted, based on the total tonnage at the rate applying to such freight. The expense for miscellaneous charges, such as painting and extra handling, &c., is added to the lump sum and the pound price is submitted if necessary.

Entering of a Job.

When received in the office a formal order for the work estimated on a job card, Fig. 5, is taken out. This is printed in copying ink and filled out with copying pencil, listing the material and giving orders for the complete work to be done by every department. This form is then placed on the clay duplicator or hektograph and a number of copies are taken from the original. Each department, including the office, receives a copy. In this way the head of each department will know exactly what work is coming along. The right hand margin is left blank for the recording of the completion of the work. In the office the job number, date and description of the material are noted on the job sheet, Fig. 4, and the estimated time of each department is filled in the column set apart on this sheet, taking the data from the estimating sheet, Fig. 2. To save confusion the estimated figures are generally inserted in red ink. After the job

either by day work or by the bonus system. The bonus card being given to the workman, the timekeeper records the time and the number of pieces of work done on each job at the end of each day, or the completion of the work if it occurs during working hours. After the work is recorded on the job sheets and the heads of all departments have their job orders, the work will be executed in its turn unless designated in the "Remarks" column as a rush order. The jobs proceed in numerical order unless otherwise noted. The material to be ordered is bought by the purchasing department, who govern their prices by the estimate. Copies of formal orders sent out on the job are noted under subheadings on the job sheet, and when received by the receiving clerk notation of such material, with quantities and weights, is placed in the receiving book, in which the bills can be properly checked. If correct they are entered into the receiving columns, together with the folio of the invoice book, where the bill will be placed for future reference. The job then being debited and the bill being credited under the name of the firm selling the material, the current job sheets are kept in numerical order in a loose leaf binder which holds the sheets securely together.

Separating the Items of Labor Cost.

Figs. 7, 8, 9, 10 and 11 illustrate the individual time cards of the man employed on this work. Fig. 7 shows the molder's time card. These cards are placed on the work-

PATTERN SHOP ROUTING CARD							
ESTIMATE NO 100		DRAWING NO D-65		DATE Dec 1, 1903			
FOR <i>M. H. Treadwell & Company</i>							
ADDRESS <i>New York</i>							
WORK <i>Manhole Cover and Frame</i>							
REQ.	MARK	DWG. NO.	TIME EACH	LUMBER EACH	SUPPLIES EACH	REMARKS	
1	21A	D-65	12 Hrs	8	FEET	sbs	
1	32C	"	25 "	35 "			
1	32D	"	2 "	1 "			
1	22A	"	9 "	5 "			

MACHINE SHOP ROUTING CARD							
ESTIMATE NO 100		DRAWING NO D-65		DATE Dec 1, 1903			
FOR <i>M. H. Treadwell & Company</i>							
ADDRESS <i>New York</i>							
WORK <i>Manhole Cover and Frame</i>							
REQ.	MARK	DWG. NO.	MAT.	MACH TIME EACH	WT EACH	REMARKS	
1	21A	D-65	C. S.	2 Hrs	185	one cast	
1	32C	"	"	4 "	490		
1	22A	"	"	1 1/2 "	75		
1	S	"	Steel	1/4 "	1	threading	

FOUNDRY ROUTING CARD							
ESTIMATE NO 100		DRAWING NO D-65		DATE Dec 1, 1903			
FOR <i>M. H. Treadwell & Company</i>							
ADDRESS <i>New York</i>							
WORK <i>Manhole Cover and Frame</i>							
REQ.	MARK	DWG. NO.	POURING TIME EACH	CORES EACH	CORE IRON	FLASKS	WT EACH
1	21A	D-65	3 Hrs	none	none	350 5/8	185
1	32C	"	10 "	"	"	1050 1/2	490
1	32D	"	1 "	"	"		22
1	22A	"	1 1/2 "	"	"		75

FITTING SHOP ROUTING CARD							
ESTIMATE NO 100		DRAWING NO D-65		DATE Dec 1, 1903			
FOR <i>M. H. Treadwell & Company</i>							
ADDRESS <i>New York</i>							
WORK <i>Manhole Cover and Frame</i>							
REQ.	MARK	DWG. NO.	MAT.	FITTING TIME EACH	WT EACH	REMARKS	
1	21A	D-65	C. S.	1/4 Hrs	185	assembling	
1	32C	"	"	1/2 "	490		
1	32D	"	"	"	22		
1	22A	"	"	"	75		
1	S	"	Steel	1/2 "	1		
1	R	"	Rubber	1/2 "	8		

Fig. 3.—Group of Four Routing Cards, One Each for Pattern Shop, Foundry, Machine Shop and Fitting Shop (3 x 5 inches, White).

orders are ready for distribution to the heads of each department, the working drawings, sketches and specifications of the necessary work are sent into the shop with the original routing cards. These cards enable the foreman to keep a close watch on the time consumed on each piece of work, and are important as a part of the bonus or premium system. Each foreman strives to execute his part of the work within the time he originally estimated, and when it is desirable gives the work to an employee on a bonus basis. The time set for the completion of the work is agreed upon by the foreman, and the men naturally try to complete it in that time or less.

The workmen understand fully the conditions of the bonus system, which is a contract for the time accepted by the employee and continuous until such work is completed, as specified on the card, Fig. 6, given to the workman by the foreman. The shop arranges with the employees for the division of 50 per cent. of the earning power of such a workman over his allotted time of the work by the foreman, the other 50 per cent. being taken by the employer. The man is paid his regular day's wages for the number of actual hours worked and the additional allotted to him as bonus on the particular job on which he is working. This system enables the employee to work on one or several jobs during the day,

man's floor, who himself inserts the time at which he starts cutting the sand and the time at which he finished work on the piece. The time and rate are proportioned in the office, after the cards have been carefully gone over by the foundry foreman. Explicit instructions are given each employee to insert the true time of the day promptly. The time for cutting the sand in the morning and the time for pouring and shaking out are taken into the account of the cost of iron. The laborers whose records appear on the cleaning department card take the castings out of the foundry in the early morning, and some of them assist in pouring. This time is added to the cost of the iron to make the rate per pound. The other three department time cards are worked similarly, with the explanation that the workman notes the exact time when starting and when finishing the individual pieces of his day's work. In this way an accurate account of the actual time consumed for every piece of work is kept. The foremen of the various departments check the cards and deliver them to the office at the close of the day. The columns for supplies and lumber are inspected by the foreman having charge of this work. These time cards constitute the record of a day's work of the productive laboring men and are gone over by the superintendent, who is directly responsible for the output. The office

clerks then arrange the cards numerically, entering the rate or wages of each workman. A check is placed in the last column, marked "Complete," by the employees when the items worked on are completed. Daily report sheets are then made out from the complete day's time cards. Each department's daily report must consist of a complete record of work done, including the employee's name and the work listed, with the job number and description and number of pieces and weight, &c. After the time cards are all entered they are placed in card index files. Fig. 12 shows how they are indexed for ready reference. Each department has a lettered guide card.

Notes from Great Britain.

The Navy Boiler Report.

LONDON, August 6, 1904.—The final report of the Admiralty Committee appointed four years ago to consider the relative efficiency of tubular and cylindrical boilers has been issued this week. It accords with general anticipations. Four years is a long period in engineering progress. It is difficult to realize that originally it was expected that the report would end in a sweeping victory for the cylindrical boiler, but the inquiry finally narrowed itself down to an exhaustive test as to which of the tubular boilers is the best. In a certain sense the course of the inquiry represents the growth of the water tube boiler. As the years have gone by it has secured scientific acceptance. Even the prejudice against the Belleville has to some extent been dissipated. For ex-

of view, that, provided a satisfactory type of water tube be adopted, it would be more suitable for use in his Majesty's navy than the cylindrical type of boiler." In addition to the rejected Belleville four other types were experimented with—the Babcock & Wilcox, Niclausse, Durr and Yarrow. Commenting on these types in detail, the committee is satisfied that two—viz., the Babcock & Wilcox, similar to that tried in the "Hermes," and the Yarrow large tube, similar to that tried in the "Medea"—are satisfactory, and are suitable for use in battle ships and cruisers without cylindrical boilers. Each type has its particular advantages, and only long experience on

STOEVEY FOUNDRY AND MFG. CO.			
MYERSTOWN PENNA.			
Job No. 5000—			
Office DEPT COPY CUSTOMER. <i>M. H. Fiedwell & Co</i>			
DATE <i>Dec 7/1903</i> ADDRESS <i>New York</i>			
ORDER No. <i>46641</i> Contract <i>74 1/2</i>			
SHIP TO <i>Rev. S. H. R. New York City</i>			
VIA <i>P & R and N. Y. R.R.</i> Freight <i>Prepaid</i>			
REMARKS <i>All shown and listed on Print D-65.</i>			
DESCRIPTION	RECORD OF WORK		
1 R. C. S. Cover Pattern 21A	3 7/8" x 2 1/4" x 1/2" C 7/16" D 1/2"		
1 " " Frame 22C	3 7/8" x 2 1/4" x 1/2" C 7/16" D 1/2"		
1 " " Locking Bar 22D	3 7/8" x 2 1/4" x 1/2" C 7/16" D 1/2"		
1 " " Locking Plate 22A	3 7/8" x 2 1/4" x 1/2" C 7/16" D 1/2"		
1 " Steel Eye Bolt 7/8" Mark S	1 1/2" D 1/2" x 3/4"		
1 " Rubber Gasket 7/8" thick R	1 ordered 12/1/03 Recd 12/1/03		
DESCRIPTION	SHIPPERS RECORD		
	Quantity Shipped Weight Price Amount		
1 R. C. S. Cover Pattern 21A	1 182		
1 " " Frame 22C	1 483		
1 " " Locking Bar 22D	1 24		
1 " " Locking Plate 22A	1 75		
1 " Steel Eye Bolt 7/8" Mark S	1 1		
1 " Rubber Gasket 7/8" thick R	1 8		
SHIPPED DATE <i>12/2/03</i> CARNO <i>Local</i> BILLED BY <i>H. H. H.</i> CHECKED BY <i>C. R. G.</i>			

Fig. 5.—Job Order, Showing Record for Work to Be Done by the Several Departments, Lower Part Being Record for Shipping Department (7 x 10 Inches, White).

ample, the committee issued an interim report in May, 1902, in which it recommended that no more Bellevilles be fitted in the navy. In its final report it adheres to this opinion, but Sir Compton Domville, the chairman, in his covering letter, says: "I am compelled to say that my experience with the Belleville boilers on the Mediterranean station has been very favorable to them as a steam generator, and it is clear to me that the earlier were badly constructed and badly used." Thus it is not impossible that before long even the despised Belleville may be reinstated.

The Four Types of Boilers.

In the interim report alluded to the committee remarked that "the advantages of water tube boilers for naval purposes are so great, chiefly from a military point

STOEVEY FOUNDRY & MANUFACTURING CO.				
MYERSTOWN PENNA.				
A DEPT SHOP TIME SLIP		A. M.		Date <i>Dec 9 1903</i>
Job No. <i>5000</i>		Drw. No. <i>D-65</i>		
Emp. <i>L. C. I. Frame</i>		Pat. No. <i>32-C</i>		
CLASS OF WORK	DAY	TIME	NO PER DAY	Estimated Time <i>8</i> Hrs Each <i>8</i> Price <i>Each</i>
	Mon			
	Tue			
	Wed			
	Thu	<i>4</i>	<i>1</i>	
	Fri			
	Sat			
	Total			

Fig. 6.—Bonus Card Recording Premium Work (3 1/2 x 6 Inches, White).

general service can show which is, on the whole, the better boiler. For the present the committee unanimously recommends both types as suitable for naval requirements. There is no finality in this judgment, for the report goes on to say that there are other types which may be considered later. If another type be tried in the future, it is recommended that it be fitted to a new vessel not smaller than a second-class cruiser.

The bases upon which the comparative results were obtained were: Thermal efficiency of boilers, wetness of steam, loss of water, examination and cleaning of interiors of tubes, external cleaning of tubes, bending of tubes, corrosion of tubes and wear of casings and uptakes, liability to damage from being forced, skilled firing required, superheated steam, feeding of the boilers, salt water and relative weights.

The Iron Market.

Last week, quite unexpectedly, a much heavier demand for raw materials in every grade developed. The reason for this seems past finding out. At this season of the year trade generally slackens, owing partly to the heat and partly to the holidays. As trade this year has been dull to the point of depression, this sudden demand caught the makers unawares and for the moment the consumers had things their own way. Prices hardened pretty quickly, but many consumers covered their requirements at an exceptionally low figure. The market is undoubtedly in a resilient mood. All this is to the good. If things had gone on as they were going we should have found ourselves in the slough of despond. Perhaps this change in mood may induce improvement in the actual economic conditions. Hopefulness assuredly has a market value. The Welsh and North of England makers are doing better than their Midland competitors.

S. G. H.

The August outing of the New England Foundrymen's Association was held at Providence, R. I., on August 11, members leaving Boston on the 10.03 train, arriving at Providence shortly after 11, where a special car was in waiting to convey them to the Squantum Club. The Providence members had arranged for a shore dinner at the club house, which was served at 1 o'clock. The attendance was about 75 and all had an enjoyable time. No business was transacted. Secretary Fred. F. Stockwell announces that the September meeting will be held at the Exchange Club, Boston, and it is planned to have several speakers and again take up the serious work of the association.

ing. Their values for gas production and the power qualities of the gases will be tested in a gas engine. Records of every test will be kept, and it is believed that before the Fair is over data will have been secured which may result in the early development of several new coal fields in the country.

The timber preserving plant is under the direction of Dr. H. Van Schrenk of the Shaw Gardens, St. Louis. Its special work will be to test all the various methods offered for preserving railroad ties. For this purpose the

tended to treat various lots of ties by different processes. Each batch of ties will then be put into regular service in some railroad track and a record kept of each tie until it is worn out or rotted out. As these tests and records will be official, they will of necessity carry great weight with them.

The Supreme Court of Errors of Connecticut on August 12 sustained the verdict of the Superior Court in a most important labor case. Nine members of the

STOEVEY FOUNDRY & MANUFACTURING COMPANY, MYERSTOWN, PENNA.										ENTERED <u>14</u>	
No <u>90</u>		CLEANING ROOM TIME CARD									
NAME OF EMPLOYEE <u>F. Wilson</u>		DEPT <u>E</u>		DATE <u>Dec 10, 1903</u>		FOREMAN <u>C. M. J.</u>					
JOB NO.	NO PCS	DETAIL OF WORK DONE NAME OF CASTINGS CLEANED		FLOOR MARK	TIME STARTING	TIME FINISHING	TIME HRS MIN	RATE	AMOUNT	WEIGHTS	
End of Iron		Removing Casting Foundry			5 30	6 30	1	13		183 Good	
5000	1	C. I. Cover		20 21A	6 30	7 00	30	"		485 "	
"	1	" Frame		" 22C	7 00	9 15	2 15	"		24 "	
"	1	" Locking Bar		" 32D	9 15	9 30	15	"		75 "	
"	10	" Locking Plates		" 22A	9 30	10 30	1 00	"		110 "	
5072	10	" Plates		16 241	10 30	12 00	1 30	"		530 "	
5072	31	"		" "	1 00	4 30	3 30	"			
								"			
								"			
End of Iron		General Labor	Pouring Iron		4 30	6 00	1 30	"			
							11 30	"			

Fig. 11—Cleaning Department Time Card (5 x 8½ Inches, Light Brown).

Allis-Chalmers Company has lent, free of charge, a tie-treating retort and two tanks for the preservative solutions. Practically all the methods which are now in use for preserving railroad ties and other timber from rotting when exposed to earth and weather, are alike in the treatment and differ only in the preservatives employed. The system supplied by the Allis-Chalmers retorts and tanks consists in placing the ties in the retort where the first

New Haven Teamsters' Union had been accused of conspiracy in endeavoring to force the truck owners and livery stable keepers to sign an agreement that they would pay the schedule prices adopted by the union under the threat that all the drivers in their employ would be induced to go on strike. The strike occurred and the teamsters stationed pickets at all the various places of business, also trying to accomplish a boycott on the busi-

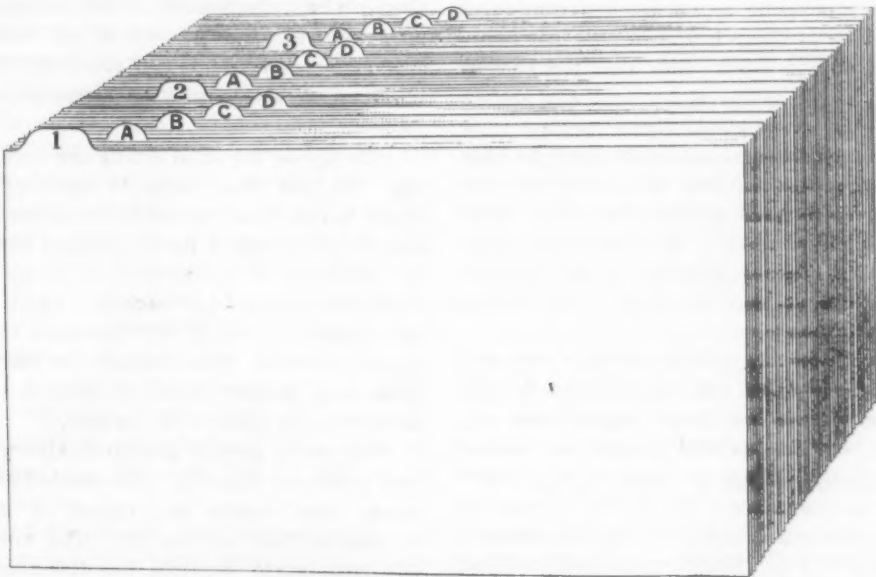


Fig. 12.—Sketch Showing Arrangement of Time Cards in a Card Box for Ready Reference

operation is to dry out all of the water and sap by heat and exhaust all of this and the greater part of the air from the retort proper pumps. Then while the pores of the wood are all open and practically free from vapor, moisture or air, the preservative mixture is let into the retort from the tanks. The preservatives are thus, under the influence of the vacuum in the pores of the wood, carried into every part of the ties or timbers, no matter how thick or long they may be.

At the plant now established in the Gulch it is in-

ness of the truck owners and livery stable keepers. One of the union men is a State organizer, and another was for a long time secretary of the New Haven Trades Council, while a third was the secretary of the Teamsters' Union, the others being members of the union. The verdict of the court is that all the parties convicted will serve a sentence of three months imprisonment and pay the costs of prosecution, amounting to \$1000. This case has been vigorously fought by counsel for the members of the union.

The Iron Age

New York, Thursday, August 18, 1904.

DAVID WILLIAMS COMPANY,	-	-	-	-	-	-	-	-	-	PUBLISHERS.
CHARLES KIRCHHOFF,	-	-	-	-	-	-	-	-	-	EDITOR.
GEO. W. COPE,	-	-	-	-	-	-	-	-	-	ASSOCIATE EDITOR.
RICHARD R. WILLIAMS,	-	-	-	-	-	-	-	-	-	MANAGER EDITOR.

The Crops and the Business Outlook.

Following the Government report of the promised record breaking cotton crop, of probably 12,000,000 bales, comes the statement from the same official sources that the corn crop is also likely to surpass the yield of any previous year. The condition of the corn crop on August 1 is placed at 87.3, which, on the basis of the acreage reported, statisticians figure to mean 2,565,000,000 bushels, or 40,000,000 bushels more than the crop of 1902, hitherto the greatest known. These two crops are of the highest importance to the business interests of the country and to the railroads. If the Government's figures suffer no material shrinkage as the season progresses, and it is now so far along that these crops seem reasonably safe, another year of heavy traffic will be assured to many important transportation systems. The wheat crop falls below that of last year, but it cannot be considered a failure as long as there is a fair surplus for export. Other crops are excellent. Everything in the line of agricultural produce is bringing good prices, so that farmers and planters may be expected to be large purchasers of manufactured goods. With railroads and agricultural interests enjoying prosperity, basic conditions are established which remove all fear of panic or serious business depression in the near future.

We have been engaged for over a year in the somewhat tedious process of getting over a speculative debauch, and are not likely to repeat the offense at once. Enormous improvements were made in nearly all departments of our industries, which in many instances have not begun to earn on the capital invested. Only time can convert a burden into an ample source of revenue. Any embarrassment due to poor crops would therefore have come at a time of recovery when shocks were hard to bear, while it has been recognized fully that bountiful harvests would do much to speed us upon the road to times of normal activity and prosperity. We have had a pretty narrow escape from savage punishment for extravagances of speculation, so that the voice of the boomer will not be so dangerous.

The prospect of large agricultural returns comes at a particularly opportune period, and will do much to fully restore confidence. There are many sanguine men who express the conviction that we shall plunge into another era of feverish activity. The more conservative elements in our business community will be content to have us run along at the rate which the possession of enormous natural resources and a progressive spirit and confident energy fully justify.

Six Years' Growth in the Iron and Steel Trades.

Statistics which have just been issued by the American Iron and Steel Association, Philadelphia, offer an opportunity to compute the very remarkable growth which has taken place in the producing capacity of the iron and steel works of the United States in the past six years. This period covers the revival from the last serious depression in business, that revival having begun in 1898. The statistics for the iron and steel works existing at the

present time are taken from the introduction to the new "Directory to the Iron and Steel Works of the United States," to be issued about August 25 and for which advance sheets have been received.

The annual capacity of completed blast furnaces is now placed at 28,114,000 gross tons, against 19,081,587 tons in 1898. This increase of practically 50 per cent. in capacity has been accompanied by a diminution in number. The completed blast furnaces at present are placed at 428, against 420 in 1898. These figures indicate a very great increase in the producing capacity of individual stacks. Of course the figures for 1898 included a considerable number of small furnaces which have been either abandoned or rebuilt, their places being taken by modern stacks, principally coke furnaces. The capacity of the charcoal furnaces has actually diminished, as their capacity in 1898 was placed at 957,400 gross tons, against 851,600 tons at present. Figuring on past conditions, under the most favorable circumstances the blast furnaces of this country are now capable of turning out about 22,000,000 gross tons of pig iron in a year.

The number of rolling mills and steel works has increased from 504 to 572, but the increase in capacity has been at a very much greater ratio than the increase in number. The annual capacity in finished products of the completed rolling mills, double turn, is now placed at 25,978,050 gross tons, against 17,929,850 tons in 1898, which shows a growth of about 50 per cent. In this connection it is interesting to note that the number of puddling furnaces, taking a double furnace as two single furnaces, has not shown the very great decrease which was to be expected in view of the substitution of steel for iron. In 1898 the number of single puddling furnaces was placed at 3889, against 3161 at present. It is likely, however, that a considerable number of the puddling furnaces now considered in actual existence is being used to only a limited extent. The number of cut nail works connected with rolling mills has been diminished more than one-half, the number in 1898 having been 55, against 23 at present. The number of nail machines, which in 1898 aggregated 4544, is now given at 2302. These figures show most conclusively the decadence of the cut nail industry.

The figures for steel works are exceedingly interesting. In 1898 there were 42 standard Bessemer steel works in existence, having 95 converters. At present the number of standard Bessemer steel works is placed at 32, with only 75 converters. Nevertheless, the annual producing capacity has increased, which is partly due to an increase in size of the converters and partly to improved practice. This capacity in 1898 was 10,552,000 gross tons, against 13,551,000 tons at present, showing an increase of close to 33 per cent.

Very much greater growth is shown in open hearth steel producing capacity. The number of completed open hearth steel works was placed at 99 in 1898, but at present they foot up 135. The works in 1898 had 281 open hearth furnaces, but the number of furnaces now in existence is put at 549, showing an increase of almost 100 per cent. The increase in producing capacity, however, is very much larger than would be indicated by the growth in the number of furnaces, which is due to the expansion in the size of the furnaces which have latterly been built, as well as to the improvement which has taken place in practice. In 1898 the annual producing capacity of the open hearth steel works was placed at 3,522,250 gross tons, against 11,335,100 tons at present. These figures of capacity show that the open hearth steel works can more than treble the output of six years

since. It will be seen further that the producing capacity of the open hearth steel works is rapidly approximating the producing capacity of the Bessemer steel works. At a reasonably early date it may be expected that this country will be producing more open hearth than Bessemer steel. The open hearth steel capacity is divided into 9,319,200 tons of basic steel and 2,015,900 tons of acid steel. The Bessemer steel works are all acid, no basic Bessemer plants now being operated in this country.

Somewhat surprising growth is shown in the figures relating to crucible steel works. Their number has increased from 45 in 1898 to 57 at present, while the number of steel melting pots has grown from 2952 to 3806. The annual capacity of these works was placed at 177,000 gross tons in 1898, and is now 226,610 tons. These figures show that the crucible steel industry is in a condition of healthful growth, notwithstanding the increasing competition from open hearth steel works.

The total annual capacity of steel works of all kinds in ingots and direct castings, which was placed at 14,251,250 gross tons in 1898, is now given at 25,190,310 tons, which is an increase of nearly 77 per cent. If a comparison be made of the blast furnace capacity with the steel works capacity, it will be observed that the latter has grown at a much greater rate than the former.

An Excellent Reciprocating Engine Record.

It would appear that the steam turbine is not to stand alone in the limelight of public approval, for the reciprocating engine, though an older performer and consequently lacking the interest of novelty, occasionally forces itself into notice and elicits a little applause on its own account. A foreign exchange of recent date tells of a wonderfully low water rate of a triple expansion engine of the central valve type built by Willans & Robinson of Rugby, England, when using superheated steam. The economy would be creditable to an engine of any size, but it is the more remarkable that it was made on one as small as 210 horse-power. The engine ran at a speed of 400 revolutions per minute, with a pressure on the steam supply of 185 pounds and a vacuum in the exhaust of 28 inches. Under full load and with no superheat the consumption was 14.6 pounds of water per horse-power per hour; with 100 degrees superheat, 12.5 pounds; with 200 degrees superheat, 10.9 pounds, and with 260 degrees the consumption was 10 pounds. At three-quarters load the consumption was 15.5, 13.1, 11.5 and 10.8, respectively, for the four degrees of superheat before mentioned. At one-half load for each degree of superheat it averaged about 1 pound greater than for the three-quarters load. At one-quarter load, with no superheat, 20 pounds of steam was consumed per horse-power per hour, and for 260 degrees superheat 12.2 pounds.

Appearing at this time, the announcement of this excellent reciprocating engine record naturally provokes a little speculating as to the outcome of the struggle for supremacy between the steam turbine, the reciprocating engine and the gas engine. Those who are going to be disappointed if their favorite does not win may take this consolation, that neither one will survive alone. In all probability the decision will be reached by a process of natural selection, and history will repeat itself once again. Just as the slow moving Corliss engine, which the enthusiasts predicted would crowd the high speed engine out of the running, did nothing of the sort, but settled into its own groove and shared the field as a whole with

its elder brother, so the turbine and the gas engine will be taken into the family, though a trifle reluctantly, perhaps. To some extent each is certain to cut into the territory of the other, but there is room for all, as the field is large and ever growing larger in consequence of progress in manufacturing and industry. At all events there is no hope of a monopoly for either one, as each has its peculiar advantages that can never be more than approximately attained by the others. What we may expect is that the steam turbine and the gas engine will eventually recognize their limitations and, joining with the reciprocating engine, all three will harmoniously pursue their parallel courses. Meantime much money is being expended in attempts to adapt the one or the other type of prime mover to all classes of work. This will not be wasted, for it will increase our knowledge of the subject and materially accelerate the developing and perfecting of each type for the work it is naturally best fitted to perform.

The Colorado Labor War.

Walter Wellman, the noted war correspondent, contributed a series of eight articles to the New York *Herald* and the Chicago *Record-Herald*, August 7 to 14, inclusive, from the seat of the late miners' war in Colorado. He states that he went to Colorado with the idea that the rights of the miners had been grossly trampled upon by the military authorities, and he was prepared to expose such high handed methods. After a thorough study of the whole situation, in which he obtained official information from Charles H. Moyer, the president, and William Haywood, the secretary of the Western Federation of Miners, as well as from Governor Peabody, General Sherman M. Bell and mine owners and citizens of the towns and cities involved, he concluded that the deportation of trouble makers was mild and merciful, and that in all probability it saved the lives of many of the "exiles" who would otherwise have been lynched by an aroused and enraged community. He is careful in his articles to give both sides of the story. This was not a fight, he concludes, between union labor and its employers, but a struggle between the citizens of Colorado and a radical socialistic organization, whose avowed and published aim was to secure control of the government of the State. A cardinal clause in the constitution of the Western Federation of Miners is that "the wealth of the soil belongs to the producers," and on this basis in years past that body had seized mines by force of arms, and made its own terms with the rightful owners. Some space is given to a review of the lawless acts, murders and assassinations fathered by the Federation, not only in Colorado, but in other States and territories. Mr. Wellman concludes the series of articles with the following arraignment:

Hence I arraign Charles H. Moyer and William Haywood as the men who are to be held morally responsible for this crime against organized labor, this offense against our civilization. And I offer to convict them before a jury composed of the leaders of the decent, honorable labor organizations of the country.

Drawback on Steel Chuck Wedges.

WASHINGTON, D. C., August 16, 1904.—Regulations have been prepared for the allowance of drawback of duty paid on imported round steel bars used in the manufacture of steel chuck wedges for export, upon the application of the Ingersoll-Sergeant Drill Company of New York. In liquidation, the quantity of imported steel bars which may be taken as a basis for the allowance of drawback may equal the quantity appearing in the steel chuck wedges in condition as exported, as declared in the drawback entry, after official verification of exported weights. Two per cent. of the exported weights may be added thereto as a compensation for nonrecoverable waste, and an allowance may be made for valuable waste in proportion to the depreciation in value of the imported material giving rise thereto.

Progress on the Naval Programme.

WASHINGTON, D. C., August 16, 1904.—The plans of the Navy Department for the letting of contracts for the vessels authorized at the last session of Congress have been materially modified. The programme includes eight vessels, which, as recently named by the Secretary of the Navy, are as follows: The battle ship "New Hampshire," the armored cruisers "North Carolina" and "Montana," the scout ships "Chester," "Birmingham" and "Salem," and the colliers "Erie" and "Ontario." The two colliers are to be built in Government yards.

The decision of the Department not to hasten the advertising and letting of contracts is based upon two considerations: First, the importance of the early delivery of vessels now in course of construction, which it is believed would be delayed if other contracts should be at once awarded and, second, the desire of the Department to secure as much competition as possible for the new contracts, which can only be obtained when several of the yards have completed at least a part of the Government work now on hand. A survey of conditions in the leading yards, based upon the current monthly reports, supplemented by special inquiries, shows that little or no progress on new contracts could be made by these yards during the coming five or six months, as each establishment is now carrying along as much naval work as can be handled to advantage.

War Ships Now Building.

The Cramp Shipbuilding & Engine Company, for example, is at work upon the battle ships "Mississippi" and "Idaho," which are only about 6.5 per cent. completed, and upon the armored cruisers "Pennsylvania," 84.2 per cent.; "Colorado," 89.2 per cent., and "Tennessee," 42.45 per cent. The Newport News Shipbuilding & Dry Dock Company has on hand the battle ships "Virginia," 63.7 per cent.; "Louisiana," 52.59 per cent., and "Minnesota," 37.56 per cent., and armored cruisers "West Virginia," 89.32 per cent., and "Maryland," 86.87 per cent., and the protected cruiser "Charleston," 79.5 per cent. The Fore River Ship & Engine Building Company is building the battle ships "New Jersey," 63.8 per cent.; "Rhode Island," 66.1 per cent., and "Vermont," 13.4 per cent. The New York Shipbuilding Company is constructing the battle ship "Kansas," 17.7 per cent., and the armored cruiser "Washington," 38 per cent. The Union Iron Works is completing the battle ship "Ohio," 97 per cent.; the armored cruisers "California," 62 per cent., and "South Dakota," 59 per cent., and the protected cruiser "Milwaukee," 54 per cent. The Moran Brothers Company is building the battle ship "Nebraska," 54.3 per cent., and the Bath Iron Works is constructing the battle ship "Georgia," 59.3 per cent. Lewis Nixon has under construction the protected cruiser "Chattanooga," 91.9 per cent., and the torpedo boats "Nicholson," 99 per cent., and "O'Brien," 98 per cent. The protected cruiser "Galveston," 87 per cent., is under contract to the Wm. R. Trigg Company, and the "St. Louis," of the same class, 44.6 per cent., to the Neafie & Levy Company. The Gas Engine & Power Company is building the gunboats "Dubuque," 52.7 per cent., and "Paducah," 45.2 per cent. Three more torpedo boats are under construction, as follows: By the Harlan & Hollingsworth Company, the "Stringham," 99 per cent.; by Wolff & Zwickler, the "Goldsborough," 99 per cent., and by George Lawley & Son, the "Blakely," 99 per cent.

With the facilities of the leading yards for naval construction thus heavily taxed, and with the relatively large number of vessels rapidly nearing completion, the Navy Department officials believe it to be advisable to permit the contractors to concentrate their efforts upon the finishing up of as many vessels as possible in the next few months, and that no time will really be lost in the progress of the general naval programme if the letting of new contracts is postponed until the end of the current calendar year.

Plans for New Vessels.

The plans for the battle ship "New Hampshire" are practically completed, but she will probably not be advertised before October 1. This vessel belongs to the

"Connecticut"—"Louisiana" class, and the Government hopes to secure a very low price for her construction, in view of the fact that the Newport News Shipbuilding & Dry Dock Company is constructing the battle ships "Louisiana" and "Minnesota," and has all the necessary plans and patterns on hand. The armored cruisers "North Carolina" and "Minnesota" will follow the general lines of the Pennsylvania class, but will be equipped with submerged torpedo tubes. The plans for these vessels have been somewhat delayed, owing to questions that have arisen concerning the armament, but the Department will probably be ready to advertise for bids for their construction some time in October.

Very slow progress is being made with the designs for the three scout ships, the Department experts finding themselves heavily handicapped by the specifications of the appropriation bill regarding tonnage and speed, taken in connection with the desire to give these vessels unusually high superstructure. The latter feature of the original design is likely to be modified somewhat, and the final plans of these three vessels will approximate those of a torpedo boat destroyer much more closely than was at first anticipated. In spite of rumors to the contrary, it can be stated positively that the Department has not abandoned the intention to equip two of these cruisers with turbine engines. The ordinary reciprocating marine engines will be installed in the other vessel.

No work will be done on the two colliers, authorized by the naval appropriation bill to be built in Government yards, until Congress has been given an opportunity to reconsider its action. As heretofore stated in these dispatches, one of these vessels will be built at the Brooklyn yard, but, inasmuch as the law requires that the other shall be built on the Pacific Coast, where at present there is no yard equipped for the work, it has been decided to advise Congress of the situation and to request a special appropriation to build a slip and provide the necessary tools and machinery. Recently the question has been raised as to the advisability of equipping one of the Pacific Coast yards for this purpose, and it may be suggested to Congress that this provision of the law be amended, so that, if a special appropriation is made, it will be available for use at one of the Atlantic yards, in the discretion of the Secretary of the Navy.

The "Louisiana"—"Connecticut" Contest.

Much interest attaches to the competition between the Newport News Shipbuilding & Dry Dock Company, which is building the battle ship "Louisiana," and the New York Navy Yard, where her sister ship, the "Connecticut," is being constructed by the Government. The two vessels are about abreast of each other, the "Louisiana" being 52.59 per cent. completed, while the "Connecticut" stands at 47.3 per cent. The former will be launched on August 27 and the latter on September 29. Under the act of Congress authorizing the construction of these two vessels the Department was directed to keep an accurate account of all expenditures, with a view to determining the relative cost of Government and private work. Every effort is being exerted by the Bureau of Construction and Repair to make a creditable showing, and it is doubtful whether the results obtained will fairly represent the work of Government establishments under ordinary conditions. W. L. C.

German Coal and Iron Companies Consolidate.—The agreement has been published for consolidation of the Gelsenkirchen Coal Company and the Schalker Coal & Iron Company, both of Gelsenkirchen, Westphalia, on a basis of one share of the Schalker Company for two and a half of the Gelsenkirchen Company's shares. The latter is the largest coal company in Germany, having a capital of \$17,500,000. Its allotment in the coal syndicate is 7,500,000 tons yearly. The Schalker Company's capital is \$2,550,000 and its debentures \$2,700,000. It runs six blast furnaces and owns iron and coal mines. Its shares have for many years past been the highest priced of the iron stocks on the German market, being quoted recently at 522. The agreement is subject to ratification of the stockholders of both companies.

A Sweeping Chicago Labor Injunction.

What is described by Commissioner Eagan of the National Metal Trades Association as the most sweeping injunction ever lodged against labor leaders was granted by Judge Marcus Kavanagh of the Superior Court of Cook County at Chicago last week. The injunction forbids officers or members of the International Association of Machinists, or their confederates or agents, "in any manner interfering with or hindering, obstructing or stopping the business" of the Charles F. Elmes Engineering Works, the Goodman Mfg. Company, E. Goldman & Co., Weir & Craig Mfg. Company, E. A. Delano & Co., and Greenlee Brothers & Co., all of Chicago, a separate injunction being served in behalf of each firm. The distinctive feature of this injunction is that it forbids the use of persuasive, as well as stronger, arguments to induce workmen from the complaining firms to quit work, and does not permit "peaceful picketing" or congregating in such a manner as to intimidate or alarm workmen. It also forbids the strikers from following or talking to the employees or visiting their homes, and from intimidating or threatening their wives or families. The injunction was drawn up by the law firm of Job, Taylor & Sincere, of which Fred. W. Job is senior partner. The injunction was asked for at a time when the striking machinists first inaugurated a campaign of violence, and in the interim between the application and granting of the injunction the Metal Trades Association and affiliated bodies succeeded in breaking the strike and filling the plants affected with nonunion labor. This injunction will, therefore, serve to protect men now employed and their families from petty annoyances and persecution, and will discourage an effort on the part of the International Union of Machinists to win its cause by force and intimidation.

The following notice has been posted in the shops of the 11 members of the Metal Trades Association in Chicago, against which the Machinists' Union is now holding a strike:

The management of this shop guarantees to all men now in its employ, and to all men who may hereafter enter such employ, that their positions will be permanent so long as their conduct, competency and the conditions of its business warrant it.

No settlement with the Machinists' Union is contemplated. The management pledges itself that under no circumstances would any settlement be allowed to affect in the slightest degree its relations with the men already in its employ, or the peaceful pursuit by them of their employment.

Robert Wuest, secretary of the National Metal Trades Association, Chicago, states that members of the association have now frequent applications for reinstatement in their old jobs of members of the Machinists' Union, who are willing to tear up their union cards and go to work, but that thus far it has been found advisable to refuse such employment, except in rare cases, where it was learned on investigation that the applicants had been forced into the union against their wills and coerced into striking. When the strike was inaugurated there were nearly 2000 members of the union out of work in Chicago, and the strike greatly augmented this number. Union machinists who can are leaving Chicago and seeking work in other cities.

July 30 was the twentieth anniversary of the shipment of the first carload of iron ore mined in Minnesota. On that date in 1884 a carload of iron ore was loaded at the old Breitung mine, now part of the great Minnesota mine at Soudan, and shipped to Two Harbors. The anniversary was marked by a general celebration at Tower, Minn. The most prominent figure in the initial shipment, which seemed rather insignificant then, but was the beginning of an immense iron ore movement, was Charlemagne Tower, now United States Ambassador to Berlin, who was then C. Tower, Jr. His father sent him in 1883 to take charge of the construction of the Duluth & Iron Range Railroad and the opening of the mines. The son promised that the first carload of ore should be shipped to Two Harbors by August 1, 1884. He made good that promise.

The Civil Engineers' Convention at St. Louis.

The general programme for the International Engineering Congress to be held in St. Louis, Mo., October 3 to 8, under the auspices of the American Society of Civil Engineers, is now being distributed to the members. It contains the names of the members of the committee in charge, under the chairmanship of Henry S. Haines, and the chairmen of the eight sections, Waterways, Municipal, Railroads, Materials of Construction, Mechanical, Electrical, Military and Naval and Miscellaneous, as well as an outline of the work to be done. The chairman of the congress will be Charles Hermans, president of the American Society of Civil Engineers, and the secretary Charles W. Hunt.

All the meetings will be opened at 10 a.m. Monday and Saturday will be general meetings of the congress, and the intermediate days meetings of all sections. The general meetings will be held in Convention Hall, Administration Building, and the section meetings in separate rooms of the same building or its vicinity.

Eminent engineers from all parts of the world will contribute to the value of this gathering, 108 papers having been promised. Those which will be of special interest to our readers will probably be found in the Materials of Construction, Mechanical and Miscellaneous sections, the subjects treated being manufacture of steel, manufacture of cement, concrete and concrete-steel and tests of materials of construction (steel, timber and cement), purification of water for the production of steam, turbines and water wheels, locomotives and other rolling stock, passenger elevators, pumping machinery, steam turbines and mining engineering.

PERSONAL.

James W. Lyons announces his resignation as manager of the power department of the Allis-Chalmers Company, effective August 13. Mr. Lyons has taken this step to accept the appointment as consulting engineer to the Elgin Watch Company, Elgin, Ill., who will erect new and extensive works under his supervision. Mr. Lyons will also engage in other consulting work, and his headquarters will be at Chicago.

Leo Wreschner, one of the partners of Beer, Sondheimer & Co., metal merchants and metallurgists, of Frankfort a M., has just returned to Europe. He has been in this country for a number of weeks.

Joseph Wharton, founder of the Wharton School of Finance, University of Pennsylvania, Philadelphia, has increased the endowment of that institution from \$200,000 to \$500,000. The building used by the school was formerly Medical Hall, but has been remodeled interiorly and will now be known as Logan Hall.

Roscoe Cornell has been appointed manager of the branch office which the Allis-Chalmers Company has just opened in El Paso, Texas. Mr. Cornell goes to the Allis-Chalmers Company from the Mine & Smelter Supply Company, Denver. He is a graduate of the Michigan College of Mines, and is well known as a mining and mechanical engineer.

Shooting down coal by steam generated rapidly from a cartridge of water instead of powder, is a new and interesting process described in a recent issue of *Electrical Mining*. A small vessel filled with water and connected by wires to a source of electrical energy is tamped into the drill hole in the usual way. When the current is turned on the water is rapidly heated and steam is generated until finally the pressure rises so high as to overcome the resistance of the coal and the desired fall results. It is claimed that the quantity of water may be made such as to provide for any required pressure, insuring a good blast under all conditions; that the coal falls in larger blocks and with less screenings than when shot down by powder; and that comfort and safety are enhanced by the absence of powder smoke and the avoidance of dust explosions resultant from blown out powder shots. Samuel and Arthur Rogers of Anniston, Ala., and Barnesville, Ohio, respectively, are the inventors.

National Metal Trades Association Notes.

CINCINNATI August 15, 1904.—The following letter has been received from President Steedman of the St. Louis Metal Trades Association: "Permit me to say that in St. Louis we believe that the employment bureau is the most important feature of the association's work. It is a great saving in time and annoyance as to procuring men, and it is of the greatest benefit to us, as we know exactly what the labor market is in this city at all times. We have had four or five small strikes in our city in the last six months, and our employment department has procured men and filled the shops in every instance in a remarkably short space of time and practically without extra expense."

The result of the vote by the International Association of Machinists on the subject of the agreement with the Amalgamated Society of Engineers has not yet been announced. It is understood, however, that this society was driven to the approval of the agreement by the discrimination of employers against its members.

Notice of a 10 per cent. cut in wages in all departments of the plant of the Worthington Pump Works, Elizabeth, N. J., was posted August 4, effective August 17.

The Molders' Union of Milwaukee made a request of the foundrymen for a conference. This was granted, and a hearing was had on July 7. Later the foundrymen decided that under present conditions it was unnecessary to make any agreement, and so notified the molders. Since that time nothing new has developed and all is quiet.

The molders of Cincinnati have accepted the cut of 20 cents per day in wages, subject to the decision of their officials.

MANUFACTURING.

Iron and Steel.

We are officially advised that the Shenango plant of the American Sheet & Tin Plate Company, at New Castle, Pa., which closed down July 1 for repairs and which gives employment to over 2000 men, has resumed operations in the hot mill departments, and the tinning mill of the Greer plant of the same company, also located at New Castle, will be started in a few days. Both the above plants are run as union plants, and the question of rebate between the American Sheet & Tin Plate Company and the Amalgamated Association for the present is that the company agrees to accept 1½ per cent. reduction on all export plate until it was proved that this reduction would not be sufficient to keep the mill on export orders.

Joseph E. Thorp of the Everett Furnace Company, Everett, Pa., advises us that last week's was the largest weekly output ever made, with a run of 1432 tons of pig iron. The month of July exceeded the record by 600 tons.

The Thomas Furnace, Milwaukee, which was blown out June 10, is undergoing extensive repairs. In addition to putting in a new lining and bosh, an additional stove is being erected and slag handling machinery installed. A new cast house is being built and dock facilities being improved and enlarged. It is expected the furnace will be put in blast in October.

The Pennsylvania Steel Company is turning out at its Steelton, Pa., plant a large special order of Mallard steel rails for use on the famous horseshoe curve of the Pennsylvania Railroad. The ordinary rail is too stiff for use on these grades and curves, and the rail specially ordered is so hard that it gives only to an emery wheel.

The City Engineer of Grand Rapids, Mich., is preparing plans for a stand pipe to be of either plate steel or steel-concrete construction. Specifications are being prepared to cover both forms of construction, but the City Engineer, L. W. Anderson, informs us that the work is not likely to be prosecuted this summer.

The Inter-State Steel Company, Rockford, Ill., elected the following officers August 6: President, L. A. Weyburn; vice-president, W. F. Barnes; secretary and treasurer, S. V. Saxby; superintendent, R. C. Bloomfield. The company has been organized to make soft center plow steel by a new process.

The Portsmouth Steel Company of Portsmouth, Ohio, announces that after September 1 its secretary, E. T. Connors, will be located at its works at Portsmouth, from which point he will attend to all inquiries, sales and such business as will come under his jurisdiction. The company has realized for some time that it was laboring under a disadvantage in having its sales department so far removed from its works.

General Machinery.

The Driggs-Seabury Ordnance Corporation, recently organized, with a capital of about \$500,000, for the manufacture of shells and projectiles for the United States Navy, has secured a site of 16 acres, the old Kimberly property, at Sharon, Pa. John Stephenson, Jr., the well-known Sharon steel man, and ex-Senator William Flinn of Pittsburgh are the principal backers of the company, which will manufacture principally projectiles, also shells from 6-inch size down to smaller designs, giving employment to between 200 and 300 men. The contract for the buildings, which will be of steel frame construction, the main building to be 300 feet long by 100 feet wide, has been let to William B. Scaife & Sons Company, Pittsburgh, Pa., to be completed within 60 days. Contracts for machinery have also been let, and the factory will be rushed to completion just as soon as possible. A contract of considerable size has already been awarded the concern by the Government, and work will begin on this just as soon as the plant is ready for operation.

The Greer-Clarkson Company, Limited, Manheim, Pa., has just been organized for the manufacture of the Mattison automatic forming machine. Ten of these machines are now in course of construction, and it is also intended to build a line of electric hoisting machines, for which a number of contracts have been secured from the United States Government. The shop is of the herring bone type, 60 x 150 feet, and having an addition 50 x 50 feet to be used as a pattern shop. The plant is equipped with a full line of modern machinery and tools. It is located on the main line of the Reading & Columbia Railroad.

Munson Bros., Connellsville, Pa., are erecting a plant for the manufacture of the Munson warm air heater, which is soon to be placed upon the market. A small amount of machinery has been purchased for installation in the new plant, and the firm is still in the market for an air compressor, pneumatic riveters, chain hoists and a drill press. The principal machines which have been purchased include a special stamping press and dies, purchased from the Toledo Machine Tool Company; forming rolls, shears and punches, to be furnished by the Niagara Machine Tool Works, Buffalo, N. Y., and a 6-foot power brake, to be built by the J. M. Robinson Company of Cincinnati, Ohio. G. A. Munson is in charge of the new project.

The Klotz Machine Company, Sandusky, Ohio, will on the 15th inst. commence the erecting of a new building 60 x 110 feet, of three stories. The equipment, which has already been purchased will consist of a planer lathe and radial drill, with smaller tools.

The Lorain Machine & Forge Company, Lorain, Ohio, is preparing plans for the enlargement of its works. It is intended to add a foundry to the machine and forge shops. The company has hitherto done local repair work almost exclusively, but is now about to take up lines of manufacture which will enable them to do business over a more extended territory.

The Cincinnati Machine Tool Company is now located in its new plant on Spring Grove avenue and Township street, Cincinnati, Ohio, where it occupies a four-story and basement brick structure 75 x 150 feet, L shape. This plant has been erected especially for the production of the company's specialty, the Cincinnati upright drills, and has been equipped with all of the latest tools and appliances adapted to that purpose. The company advises us that it extends a cordial invitation to all parties interested in modern factory construction to call and inspect its plant.

The Lackawanna Motor Company, Buffalo, N. Y., has been declared an involuntary bankrupt and Wm. C. Carroll appointed as receiver.

The name of the White-Evans Mfg. Company, Bloomington, Ill., was changed July 27 to the Portable Elevator Mfg. Company. The officers of the company are J. F. White president and G. B. Read secretary and general manager. The company makes the Little Giant portable grain elevator and wagon dump.

The Gragert Mfg. Company, Minneapolis, Minn., has been incorporated, with \$40,000 capital, partly paid up, to manufacture and exploit the inventions of E. W. Gragert, the president. These inventions include notably Gragert's relay pump, a device by which the column of water to be raised is divided into two sections or relays, for the purpose of economizing power. Other devices and novelties of wood and iron will be made and sold. Roloff Vaaler is secretary.

The Barnes Mfg. Company, Lanesboro, Pa., will shortly require a small amount of wood working machinery to replace that destroyed in a recent fire. The company manufactures circular saw mills and special machinery.

Moffitt Brothers, builders of engines, boilers, dry kiln headers, mill supplies, &c., of Sanford, N. C., are building new shops and have purchased a considerable amount of machinery for their equipment. They are still in the market, however, for a heavy lathe to be used for car wheel work.

The Crompton-Thayer Loom Company, Worcester, Mass., is erecting a one-story steel frame building, 50 x 200 feet, in addition to its plant. It is intended to use this building for

an erecting shop, and while the bulk of its equipment will be taken from other portions of the present plant, it is intended to purchase a small amount of machinery when the building is completed.

The C. O. Bartlett & Snow Company, manufacturer of mill and labor saving machinery, Cleveland, Ohio, reports having received a number of important orders recently, including the following: From the city of Winnipeg, Manitoba, one four-compartment direct heat rotary dryer, capacity 100 tons of sand per day; the Silver Cup Mines, Limited, Ferguson, B. C., one single cylinder direct heat rotary dryer, using waste heat from the ore roasters, capacity 50 tons of slimes per day; James Kirk & Co., Chicago, one steam dryer; the Washington Carbon Company for a complete outfit, conveying and elevating machinery, for its new plant at Wellsville, W. Va.; the Semi-Steel Company, Cleveland, Ohio, elevating and conveying machinery for large brick plant to be erected at St. Paul, Minn.

The McConnell Wheel & Mine Supply Company, Uniontown, Pa., was chartered at Harrisburg, Pa., with a capital stock of \$100,000. Fred. W. Ward of Uniontown is a director.

The V. & O. Press Company, Brooklyn, N. Y., which succeeded Vieillard & Oswald, manufacturers of presses, dies and special machinery, has removed from Pearl street, Brooklyn, to its new plant at Glendale, L. I. The new plant is considerably larger than the original works and it furnishes the necessary capacity for handling the rapidly increasing business of the company, and for completing some large orders for special machinery now on hand.

The Volunteer Disc Plow Company, recently incorporated at Chattanooga, Tenn., with a capital of \$50,000, will at once erect and equip a large factory for the manufacture of its special plows.

The Berlin Machine Works, Beloit, Wis., manufacturers of special wood working machinery, are adding to their erecting department a building 150 x 200 feet, and have other additions in prospect. In order to transfer its surplus into capital stock the company recently increased its stock from \$300,000 to \$2,500,000.

The Waterbury Tool Company, Waterbury, Conn., has increased its capital stock from \$14,500 to \$40,000. H. G. Hoadley is president and treasurer.

The Diamond Machine Company, Providence, R. I., will close its shops from August 20 to 29, inclusive, for stock taking and general repainting. The office will remain open for business and orders for catalogue goods from stock will be filled as usual.

The Toledo Machine & Tool Company, Toledo, has purchased the plant of the Pontiac Sheet Metal Specialty Company, Pontiac, Mich., and will probably place it in operation.

The C. O. Bartlett & Snow Company, Cleveland, has received contracts for conveying and elevating machinery from the Sherwin-Williams Company, Cleveland; Cameron & Barkley, Charleston, S. C., and the National Brick Company, Omaha, Neb. The company reports inquiries more numerous.

The Hardie Company of Canton, N. Y., has filed with the Secretary of State a certificate announcing that the amount of its capital stock has been increased to \$50,000, consisting of shares of \$100 each. Of this amount the sum of \$10,000 is to be 7 per cent. cumulative preferred stock. The directors of the company include James G. Hardie, George R. Hardie and William C. Hardie. The company is engaged in the manufacture of power paper cutters and folding machines.

The Tinsman Mfg. Company, Morris, Ill., succeeds the Morris Foundry & Machine Company, which was owned by Geo. C. Rickley of Ottawa, Ill.

The Southern Illinois Machine & Foundry Company, Murphysboro, Ill., has absorbed the plant of the late J. W. Lewis and increased its capital stock from \$6000 to \$20,000.

The Missouri Valley Bridge & Iron Works, Leavenworth, Kan., which was destroyed by fire July 30, will be rebuilt, the new plant to be 50 per cent. larger than the old. The company will be incorporated, with a paid up capital of \$100,000, and the widow of A. J. Tullock, the founder of the company, who died a week before the fire, will be a leading stockholder in the new company. A. J. Schelling is secretary and treasurer.

Power Plant Equipment.

For the purpose of extending its plant and widening its scope generally the Elyria Engine Company of Elyria, Ohio, has been reorganized under the style of the Elyria Gas Engine Company, which was recently incorporated under the State laws of Ohio. The new company will place upon the market a new line of gas and gasoline engines, and is now equipping its plant with the necessary machinery for producing the same. An entire new factory, 75 x 175 feet, is to be equipped for this purpose, including all of the standard types of machine tools. The heavy machines will be driven by independent motors, the company furnishing its own power. The officers of the company are as follows: President and treasurer, Herman Ely; vice-president, D. C. Baldwin; secretary, D. L. Triscler; general manager, A. E. Taylor.

The Landis Tool Company of Waynesboro, Pa., has contracted with the Harrisburg Foundry & Machine Company for a 300 horse-power engine to be used in an electrical power plant.

A contract for three 200 horse-power water tube boilers for the Galesburg & Kewanee Electric Railway's new power house at Kewanee, Ill., has been placed with the Kewanee Boiler Company. A 600 horse-power cross compound condensing engine has been ordered from the Buckeye Engine Company, Chicago. Contracts for the building and for condensers and other accessories will be placed shortly. G. W. Sturtevant, Fisher Building, Chicago, is architect.

There will be no new machinery required by the Victor Talking Machine Company, Camden, N. J., except that for the new power plant which was mentioned in these columns last week, consisting of four 150 horse-power boilers, two 300 horse-power engines and appurtenances. The new structures are to take the place of buildings which the company is renting and the machinery from these will be moved into the new shops.

The Erie City Iron Works, Erie, Pa., are installing a plant for the Murray Company, Dallas, Texas, which includes a 300 horse-power Erie City water tube boiler and a 15 x 21 inch four-valve engine direct connected to a General Electric alternating current generator. They express the belief that this is the first installation in Texas using a direct connected alternating current generator for manufacturing purposes. The Murray Company makes cotton machinery supplies.

Foundries.

J. Gilmour, 99 Nassau street, New York, agent for general foundry equipment, and his son have formed the firm of Gilmour & Co. and have opened a modern foundry at 11-13 Seabring street, South Brooklyn, where they will make brass, hydraulic and phosphor bronze castings from 1 pound to 1 ton.

Born Bros. have added a foundry to their machine shop at Belleville, Ill., and will hereafter make their own castings.

J. Frank Aldrich, receiver in bankruptcy for the New York Car Wheel Works, Buffalo, has sold the St. Thomas Car Wheel Works, St. Thomas, Ontario, to the Canadian Iron & Foundry Company of Montreal, the price obtained being \$38,000. The St. Thomas plant was owned by P. H. Griffin of Buffalo, who was also president of the New York Car Wheel Works. The sale was the result of proceedings brought in Canada by the Deseronto Iron Company. Another Griffin plant soon to be sold under the hammer for the benefit of creditors is the Montreal Car Wheel Company, which has not been operated for two years, the indebtedness being about \$40,000.

The foundry plant of the defunct Heating, Ventilating & Foundry Company, Elm Grove, Wheeling, W. Va., will be sold at 10 a.m. on September 3, at the north door of the Wheeling City Court House, by M. N. Cecil, receiver. The equipment, which includes a 10-ton Newton cupola, is described as new.

The Indiana Foundry & Machine Company, South Bend, Ind., has just completed additions to its plant whereby the capacity is doubled. The remodeled plant contains all modern appliances and is of sufficient size to permit of the handling of large as well as small work and insure rapid production. The extension includes the erection of an entire new brass foundry, which affords every facility for carrying on this branch of the business along more approved lines than was the case when both the iron and brass departments were conducted under one roof. A large new steel vault, thoroughly fire proof, has been constructed for the storage of patterns to insure their safety. The officers of the company are as follows: Joseph Bergan, president; A. A. Forsyth, vice-president and general manager; W. N. Bergan, secretary, and Fred. L. Dennis, treasurer.

Bridges and Buildings.

A. W. Krouse has been appointed receiver for the South Pittsburgh Iron Works, Claysville, Pa., manufacturers of steel bridges and structures.

The Newcastle Bridge Company, Indianapolis, Ind., was awarded a contract for a steel bridge 304 feet long over the White River at Crow's Nest, a suburb of Indianapolis. The bridge will be divided into three equal spans and will be of the steel plate girder construction. There were 14 bidders, of whom the above named firm was the lowest at its figure of \$15,490 for the superstructure.

The Attica Bridge Company, Attica, Ind., was awarded contract for a steel bridge across the Mississinewa River, near Muncie, Ind., for \$24,000.

Clinton Bridge & Iron Company, Clinton, Iowa, was awarded contract for a steel bridge at Logan avenue, Waterloo, Iowa, for \$2895. Bridges at Webster street and Lincoln street will be awarded this week.

A 160-foot swing bridge on solid concrete piers, across the Kalamazoo River at Allegan, Mich., has been let to the Joliet (Ill.) Bridge Company for \$8998.50.

The Frazer Construction Company, Andalusia, Pa., has been chartered at Harrisburg, Pa., with a capital stock of \$10,000. James L. Frazer is a director.

The Buffalo plant of the American Bridge Company is to be equipped with additional machinery which it will receive shortly from the dismantled plant of the company's Empire Bridge Works at Albany.

A contract for a quantity of bridge and steel work for the East St. Louis & Suburban Railway Company has been awarded to the Union Bridge Company. The company will expend \$10,000 in repairing the damage done to its central power station by a recent fire. The new building will be thoroughly fire proof.

Fires.

The Ohio Valley Buggy Company, Aurora, Ind., which recently suffered a fire loss, has completed plans for rebuilding. As very little machinery was damaged, it will not be necessary to consider this subject at this time.

Kitselman Bros., Muncie, Ind., inform us that the fire of August 3, which caused a \$10,000 loss in their plant, has not prevented them from filling all orders promptly and will not delay improvements which they purpose making.

The Fauber Mfg. Company, Elgin, Ill., suffered a serious fire loss August 11 which almost totally destroyed its plant, valued at \$300,000, as well as automobiles and stock on hand worth \$40,000.

Hardware.

The stockholders of the Rogers Iron Company, Springfield, Ohio, recently determined to change the name of the corporation to the William Bailey Company. This does not in any way affect the management of the business, the capital stock being held exactly as heretofore. William Bailey, president, has for a term of years been at the head of the institution, and during that time has originated many mechanical contrivances which have improved the product and increased the output, thus reducing the cost of manufacture. The company manufactures fences and railings, entrance gates, castings, hardware specialties, &c.

The Magnolia Mfg. Company was incorporated August 5, with \$50,000 capital, for the manufacture, at Magnolia, Ark., of wheelbarrows and small implements. J. L. Davis is president, D. M. Davis vice-president and C. E. Shumaker secretary and manager. The president and vice-president are local capitalists, while the secretary was formerly a wheelbarrow manufacturer at Pierceton, Ind., and later secretary and manager of the Cypress Lumber & Shingle Company of Little Rock.

The Wapakoneta Hollow Ware Company, Wapakoneta, Ohio, has changed hands, Milton Bennett, Harry Bennett and Marion Stevenson having sold out to S. L. Wyckoff, W. J. Emmons and Stewart Wick. The new owners expect to enlarge the factory and add to the equipment.

On August 11 the Evert Tool Company, Evert, Mich., increased its capital stock from \$12,000 to \$17,000, all of which has been subscribed and paid in. The company manufactures lumbering tools and handles.

The Avery Stamping Company, Cleveland, Ohio, completed its inventory on the 6th inst. and is now in operation on all lines, including cooking utensils, shovels, spades and scoops, snow and ash shovels, &c. The company has just received a nice order for shovels for export, which is a repeat order from a new customer, the first shipment having gone forward in June. The company is making a specialty of its patented plain back shovels and spades, and is gratified with the reception these goods have met from the trade.

The controlling interest in the Waterville Cutlery Company, Waterville, Conn., was purchased at a recent meeting of the stockholders by George J. Babcock, formerly of Waterville and Hartford, and William H. Kenney of Milwaukee, Wis., where Mr. Babcock now lives. The stock was owned by the heirs of the late W. Sumner Babcock and could not, by the terms of the will, be disposed of for two years after his death. Since Mr. Babcock's death Attorney N. R. Bronson, as executor of the estate, acted as president and treasurer, with H. Austin Morse as secretary. The new proprietors will conduct the business as formerly. George J. Babcock was elected president and treasurer and William H. Kenney secretary and general manager. The company is capitalized at \$25,000.

The Foyer Steel Stamping Company, Painesville, Ohio, has surrendered its charter in the State of Delaware and taken out a new charter in Ohio.

The Hillsdale Screen Company, Hillsdale, Mich., has increased its capital stock from \$30,000 to \$60,000, for the purpose of rebuilding its plant, which was destroyed by fire last December. The new plant will be considerably larger than the old. The company makes screen doors and windows.

Miscellaneous.

D. B. Dunham & Son, Rahway, N. J., have incorporated, with a capital stock of \$100,000, to take over the carriage manufacturing business of D. B. Dunham & Son, which was established in 1863 by the late D. B. Dunham.

The Sun Typewriter Company, New York, has incorporated, with a capital stock of \$125,000. The business has been put in incorporated form as a matter of convenience, there being no changes contemplated.

The Safety Gas Burner Company, Akron, Ohio, has been incorporated, with \$10,000 capital stock, by C. J. McCormick, A. J. Rowley, S. G. Rogers and L. A. Sellers. The company will manufacture a new form of gas burner for stoves and illuminating purposes.

Though it has not yet been definitely decided, the present plan of the Lima Insulator Company, Lima, N. Y., is to use gas engines to furnish power for its new plant, which will be located on the Lehigh Valley Railroad. There will be a two-story machine shop, 48 x 96 feet; power house, 36 x 40 feet; kiln building, 55 x 105 feet; testing room, 40 x 60 feet, and a storehouse, 40 x 80 feet. The buildings will be so arranged that they can be duplicated without interfering with the arrangement. The company will make high grade porcelain insulators.

The Standard Welding Company, Cleveland, has recently adapted its electrically welded tube to the production of several new varieties of tubing. It is now filling orders for spiral grooved, corrugated, square and hexagon tubing, and the results are claimed to be very satisfactory.

The Brier Hill Coke Company, an identified interest of the Brier Hill Iron & Coal Company, Youngstown, Ohio, is building 200 new ovens in the Klondike field in the Connellsville district. About 100 ovens have been completed by this concern, from which it is shipping coke to its Grace Furnace in Youngstown.

The Oleson Mfg. Company, Toledo, Ohio, will erect a factory for the manufacture of the Oleson air brake. The company has recently been formed by C. Oleson, F. W. Showell, Karl Mathias and others.

The Hale-Kilburn Metal Company, Philadelphia, was chartered at Harrisburg, Pa., with a capital stock of \$100,000. Harry G. Barnes of 2010 North Thirteenth street, Philadelphia, is a director.

The Pittsburgh Steel Car Company, Pittsburgh, Pa., has been chartered at Harrisburg, Pa., with a capital stock of \$50,000. William M. Robinson of Pittsburgh, Pa., is president.

The Nicol Transit Company has been incorporated at Buffalo, with a capital of \$15,000, and will build steel passenger and freight boats of the smaller type and yachts. Directors, Jno. J. Boland, Adam Cornelius, James A. White, Wm. S. Mason and Harvey L. Brown.

The La Fave Arms Company, Defiance, Ohio, has been purchased by Toledo parties, who have reorganized the company and will continue the business under the name of the Defiance Arms Company.

The Melville Clark Plano Company, Chicago, is planning to erect a new factory at De Kalb, Ill., where a site of several acres has been secured. The main structure will be a four-story building, besides which there will be a dry kiln, and engine and boiler house and an office building. The cost of the new plant is estimated at \$75,000.

George B. Linney, a banker of Osceola, Mo., and Bert Chase, a safe salesman of Freeport, Ill., have formed a partnership for the purpose of organizing a company to build subterranean vaults after patents owned by Mr. Linney. The vault consists of a steel well, with hydraulic elevator controlled by time lock. The old plant soon to be vacated by Hoefer Bros. has been leased for the initiation of the manufacture of the vault. One of these unique vaults is in operation at the World's Fair National Bank on the fair grounds at St. Louis.

It is not the intention of the General Railway Signal Company to enlarge its plant, as was reported would be done. The Rochester plant formerly operated by the Pneumatic Signal Company, consisting of modern buildings and containing about 6 acres of floor space, will be utilized for the production of mechanical and pneumatic railway signals, while the Buffalo plant, taken over from the Taylor Signal Company, will be used for the production of railway signals operated electrically. The executive and engineering offices are located in Buffalo, N. Y.

The city of Westgate, Iowa, has awarded to W. D. Lovell, Minneapolis, Minn., a contract for a 75-foot steel tower, 14 x 16 foot tank, Fairbanks gas engine and 1500 feet of cast iron pipe.

Additions are about to be made to the Newark plant of the Universal Caster & Foundry Company, which is located at 108-130 Adams street, Newark, N. J. The principal building will be a three-story brick structure 41 x 60 feet, to which an 8 x 10 brick extension, also three stories high, will be added. A 2-ton freight elevator, to be belt driven, for which the company is still in the market, will be installed in this extension. The entire second floor of the new building is to be used for nickel and brass plating, in which the company will install a new dynamo of about 600 amperes, several tanks and a number of steam kettles for potash, soda, &c. This equipment is all to be purchased. On the other floors machinery will be erected which will be taken from other portions of the present plant. F. H. Ogden, consulting engineer for the company, with offices at 118 Adams street, Newark, N. J., is in charge of the purchasing.

F. E. Bowers of West Nashville, Tenn., is at the head of a new company which will build a plant at Nashville, Tenn., for the production of valves and plumbers' cast brass supplies. It is intended to equip the new plant with a rotary melting furnace, water mills, lathes, screw cutters and all the necessary machinery for the making and manipulation of brass castings. None of the machinery has been purchased.

The Iron and Metal Trades

Considering the fact that the gentlemen's agreement in the Steel trade has long possessed a shadowy value, the effect upon sentiment of the recent occurrences has been rather surprising. Certain demands have been made upon the Republic Company in connection with the conversion contract, and have been flatly refused, and there the matter rests.

So far as the great mass of the tonnage of Finished Steel is concerned, the situation is not at all changed whether Billets are selling at \$23 or at \$19. The great companies which make finished products going back to the Ore are not affected at all. The large consumers of Steel either have their conversion contracts, or their sliding scale contracts based on Pig Iron, which has declined from natural causes. Under these sliding scale contracts they have been getting their Steel at close to \$19 for some time past. It is only a limited number of small outside forges and rolling mills who have been "held up" under the gentlemen's agreement, and with a wide open market for Steel they will simply be placed in a somewhat better position to fight for a modest share in the finished lines. In a market like the present this may have some influence.

The real danger lies in the gathering signs of a disintegration among the more serious pools in the finished trade. Foremost among these is the Beam Association. It is reported that this structural pool has invited the Lackawanna Company to enter, and that this invitation has been declined on the ground that the pool agreements were not being kept. The company has completed a very large new mill and has only lately made its first important sale of Structural Material. It seems probable that the position of the markets in this branch will be thoroughly tested by the results of the bids on the large amount of work for the South Side Elevated Company of Chicago, which will probably be known this week. The outlook for the maintenance of prices on Structural Material is not regarded as particularly promising. There is growing uneasiness, too, in the Plate pool.

The announcement has been made to-day by the leading interest of a sharp reduction in the prices of Wire products, Wire Nails being put down from 1.80c. to 1.60c., Plain Wire from 1.70c. to 1.45c., and Galvanized Barb Wire from 2.40c. to 2.05c. at Pittsburgh.

Reports are current that the Steel Rail makers will probably take up the matter of 1905 prices early during September. In the meantime the selling prices of Light Rails are showing a further decline, and what little business is doing is being fought for until at times as low as \$18.50 and \$19 at mill is being accepted.

The Southern labor situation is expected to come to a head at an early date. There may be some trouble, but it is believed that it will not be long before the district is again producing at a normal rate. In the meantime the Northern furnaces are taking the greater part of what business is coming up on the basis of \$11.50 for No. 2 Foundry at furnace.

A Comparison of Prices.

Advances Over the Previous Month in Heavy Type,
Declines in Italics.

At date, one week, one month and one year previous.

Aug. 17, Aug. 10, July 20, Aug. 19,
1904. 1904. 1904. 1903.

PIG IRON:

Foundry Pig No. 2, Standard, Philadelphia	\$14.25	\$14.25	\$14.25	\$16.75
Foundry Pig No. 2, Southern, Cincinnati	12.00	12.00	11.75	15.25
Foundry Pig No. 2, Local, Chicago	13.25	13.25	13.25	16.50
Bessemer Pig, Pittsburgh	12.85	12.85	12.50	17.85
Gray Forge, Pittsburgh	12.00	12.00	11.85	16.00
Lake Superior Charcoal, Chicago	15.00	15.00	14.50	21.00

BILLETS, RAILS, &c.:

Steel Billets, Pittsburgh	23.00	23.00	23.00	27.00
Steel Billets, Philadelphia	24.00	24.00	24.00	28.00
Steel Billets, Chicago	22.00	22.00	22.00	28.00
Wire Rods, Pittsburgh	28.00	28.00	28.00	35.00
Steel Rails, Heavy, Eastern Mill	28.00	28.00	28.00	28.00

OLD MATERIAL:

O. Steel Rails, Chicago	10.50	10.00	9.50	16.50
O. Steel Rails, Philadelphia	11.75	11.50	11.00	17.75
O. Iron Rails, Chicago	15.50	15.00	14.00	18.50
O. Iron Rails, Philadelphia	14.00	14.00	13.75	21.00
O. Car Wheels, Chicago	11.50	11.00	10.50	21.50
O. Car Wheels, Philadelphia	11.50	11.00	10.50	19.00
Heavy Steel Scrap, Pittsburgh	11.50	11.50	10.50	19.00
Heavy Steel Scrap, Chicago	9.25	9.25	9.00	15.00

FINISHED IRON AND STEEL:

Refined Iron Bars, Philadelphia	1.48½	1.48½	1.48½	1.60
Common Iron Bars, Chicago	1.35	1.35	1.30	1.60
Common Iron Bars, Pittsburgh	1.30	1.30	1.30	1.60
Steel Bars, Tidewater	1.49½	1.49½	1.49½	1.70
Steel Bars, Pittsburgh	1.35	1.35	1.35	1.60
Tank Plates, Tidewater	1.74½	1.74½	1.74½	1.60
Tank Plates, Pittsburgh	1.60	1.60	1.60	1.60
Beams, Tidewater	1.74½	1.74½	1.74½	1.73½
Beams, Pittsburgh	1.60	1.60	1.60	1.60
Angles, Tidewater	1.74½	1.74½	1.74½	1.73½
Angles, Pittsburgh	1.60	1.60	1.60	1.60
Skelp, Grooved Steel, Pittsburgh	1.32½	1.32½	1.32½	1.82½
Skelp, Sheared Steel, Pittsburgh	1.32½	1.32½	1.32½	1.87½
Sheets, No. 27, Pittsburgh	2.00	2.00	2.00	2.60
Barb Wire, f.o.b. Pittsburgh	2.05	2.40	2.50	2.60
Wire Nails, f.o.b. Pittsburgh	1.60	1.80	1.90	2.00
Cut Nails, f.o.b. Pittsburgh	1.65	1.65	1.75	2.15

METALS:

Copper, New York	12.50	12.50	12.62½	13.62½
Spelter, St. Louis	4.75	4.75	4.77	5.50
Lead, New York	4.10	4.10	4.20	4.12½
Lead, St. Louis	4.00	4.02½	4.12½	4.10
Tin, New York	26.75	26.25	26.40	27.80
Antimony, Hallett, New York	7.00	7.00	7.25	6.37½
Nickel, New York	40.00	40.00	40.00	40.00
Tin Plate, Domestic, Bessemer, 100 pounds, New York	3.49	3.49	3.64	3.99

Chicago.

FISHER BUILDING, August 17, 1904.—(By Telegraph.)

The comparative activity of the first two weeks in August has received an unexpected setback, and business in most lines is nearly as dull this week as it was any time in July. Possible the widespread publication of the Republic conversion deal and the consequent emphasis on the fact that Billets were being cut in price had something to do with it, even though it had been known for a long time that Billet pool prices were only nominal. Certain it is that the buying spirit has been chilled in many lines of Finished Materials.

Pig Iron, however, seems to be in as active demand as it has been for the last two or three weeks, with all but one Southern producer—a maker of Iron somewhat high in phosphorus—adhering to the \$9.50 basis. A number of lots of 500, 1000 and 1500 tons of Southern Iron for delivery this year have been sold on the \$9.50 basis, and some sales are claimed at 25c. higher, but it is the Northern furnaces that are getting the lion's share of the business. The large melters are coming into the market more freely than for months. There is little or nothing doing in Rails, though the tone and tonnage of inquiries are improving. The demand for Structural Materials has slackened perceptibly, and the same is true of Plates. These three lines—Rails, Structural Shapes and Plates—are recognized as being held artificially several dollars a ton above their normal selling prices, based on Pig Iron and other costs. No improvement is noticeable in the Sheet situation, and even the low prices quoted in that column are being shaded by mills hungry for orders. The leading producer of Wrought Iron and Steel Pipe maintains that business is good as ever, but this contention is hardly borne out by the trade at large. Cast Iron Pipe is firm in price in line with the strength in South-

ern Iron. Business has been light, however. Old Materials, under the impetus of speculative buying, continue to advance sharply, this week's advances being more startling than those of any week previous since the speculative fever set in. Metals are unchanged in price and demand is weak. Coke seems to be a little firmer in price and better in demanded.

Pig Iron.—The impression prevails that production has been cut down to a point where consumption will shortly overtake it, if it has not already done so. This has a tendency to keep wavering furnaces in line as far as prices are concerned. On the other hand, it is felt here that the Southern producers have, by their open mine manifesto, practically won the Coal mine strike, and that as a consequence a number of furnaces now idle will shortly resume operations. It is thought, however, that the seasonable increase in demand will more than offset this augmentation in supply. One large Southern interest continues to give away a 25c. freight advantage, landing its Iron in this market at an equivalent of \$9.25, Birmingham; but as this Iron is usually sold at 25c. below another product of the same company on account of its higher phosphorus and sulphur, we do not make it the basis of our quotations. Rather more Southern Iron has been placed in this market this week than the week previous, and a number of 1000 and 1500 ton orders have been closed for delivery during the next four months. The bulk of the tonnage being booked, however, is among the Northern interests, and while buying is scarcely up to the standard of the two weeks previous, it is undeniably active. The contract for Basic Iron mentioned last week went to a Southern producer instead of a Northern as surmised. We make no changes from last week's price-list. We quote:

Lake Superior Charcoal.....	\$15.00 to \$15.50
Northern Coke Foundry, No. 1.....	13.75 to 14.00
Northern Coke Foundry, No. 2.....	13.25 to 13.50
Northern Coke Foundry, No. 3.....	13.00 to 13.25
Northern Scotch, No. 1.....	13.75 to 14.00
Ohio Strong Softeners, No. 1.....	14.55 to 14.80
Ohio Strong Softeners, No. 2.....	14.05 to 14.55
Southern Silvery, according to Silicon.....	14.15 to 15.15
Southern Coke, No. 1.....	13.65 to 13.90
Southern Coke, No. 2.....	13.15 to 13.40
Southern Coke, No. 3.....	12.90 to 13.15
Southern Coke, No. 4.....	12.15 to 12.40
Southern Coke, No. 1 Soft.....	13.65 to 13.90
Southern Coke, No. 2 Soft.....	13.15 to 13.40
Southern Gray Forge.....	12.15 to 12.40
Southern Mottled and White.....	11.90 to 12.15
Malleable Bessemer.....	13.75 to 14.00
Standard Bessemer.....	14.25 to 14.75
Jackson County and Kentucky Silvery, 6 to 10 per cent. Silicon.....	16.30 to 18.30
Alabama Basic.....	13.15 to 13.50
Virginia Basic.....	13.85 to 14.10

Billets.—Another indication of the low price at which Billets are being sold, as compared with the gentlemen's agreement schedule, is the fact that Steel Car Axles are being offered to the railroads at as low a price as Iron Car Axles, which are made from Scrap that has cost the Axle makers from \$10 to \$11 per net ton. In other words, it is hard to figure how the Axle makers could pay within gunshot of the \$25 pool price for Axle Billets and sell their Steel Axles at \$24 a net ton. Axle Billets, as is well known, are supposed to be held at \$1 per gross ton above the \$24 pool price for 4 x 4 and larger Billets, at Chicago, in car lots.

Rails and Track Supplies.—If half the inquiries now being figured on, mainly from electric roads, develop into orders, this will not be such a famine season after all. Once in a while one of these propositions does find its way into mill order books for 1000 tons or so, but aside from that business is as dead as can well be imagined. Standard Sections are unchanged on the \$28 basis, and Light Sections range from \$22 to \$25 per gross ton. Angle Bars are unchanged at 1.35c. to 1.40c. Spikes are now quoted at 1.65c. to 1.70c. in car lots from mill and as high as 1.85c. in small lots from store. Track Bolts are selling at 2.20c. to 2.25c., base, from mill, with Square Nuts, and 10c. to 15c. extra for Hexagon Nuts, with an advance of about 15c. for shipment from store.

Structural Material.—The impression is gaining ground that the schedule of association prices on Beams, Angles and Channels is not being rigidly adhered to. Thus far it is not possible to obtain any definite figures to substantiate this claim; and it is not unlikely that the price cutting extends only to such of the smaller sizes belonging to the Structural class as are rolled by Bar mills. One thing is certain, it is usually much cheaper to buy your bridge or your building erected than to pay the association price for the Steel and employ a second party to do the erecting. The practice of cutting prices on Steel by doing the erecting at less than cost is beyond the control of any association. The South Side Elevated contract, which will require nearly 25,000 tons, is now being figured on by the mills. Proposals will be received either for the Steel fabricated ready for erection or for the complete structure, including erection. This contract, it is expected, will be awarded within a few days. Prices are unchanged, as follows: Beams and Channels up to and including 15 inches and Angles 3 inches on one leg

and larger, 1.76½c., Chicago; Tees, \$1 per ton extra. Store prices on Structural are as follows: Angles, Beams, Channels and Tees, base sizes, 2c. to 2.10c.; Tees, 2.05c. to 2.15c., either random lengths or cut to lengths 5 feet and over.

Plates.—Business is not as active as it was a week ago, but is better than that of any week in July. Two Milwaukee shops have bought 1500 tons from an Eastern mill. Some nice contracts in Chicago and smaller Illinois cities are being figured on. Prices on wide Plate seem to be maintained without exception, while Plates 60 inches wide and narrower are still being offered at \$2 to \$3 a ton below the pool schedule. Association prices are unchanged, as follows: 1.60c., Pittsburgh, for ¼ inch and heavier, 1.70c. for 3-16 inch, 1.75c. for No. 8, 1.85c. for No. 9. Store price on all gauges from No. 10 to the heaviest is 2c. to 2.10c., f.o.b. warehouse, with the usual extras for wide widths and special qualities.

Sheets.—It is hard to say just what Sheet prices are, as it is every mill for itself and a disinclination on the part of any of them to take the consequences of being hindmost. The following prices may serve as a guide if the buyer takes into consideration the fact that a dollar or two a ton lower is likely to be offered by some mill on a desirable specification. We quote: One Pass Cold Rolled Blue Annealed, Nos. 9 and 10, 1.76½c.; Nos. 11 and 12, 1.86½c.; Nos. 13 and 14, 1.91½c.; Nos. 15 and 16, 2.01½c.; Nos. 18 to 20, 2.01½c. to 2.06½c.; Nos. 22 to 24, 2.06½c. to 2.11½c.; No. 26, 2.11½c. to 2.16½c.; Nos. 27, 2.16½c. to 2.21½c.; No. 28, 2.26½c. to 2.31½c.; No. 29, 2.41½c. to 2.46½c.; No. 30, 2.51½c. to 2.56½c. Store prices on Sheets are unchanged, as follows: No. 10 and heavier, 2c. to 2.10c.; No. 12, 2.05c. to 2.15c.; No. 14, 2.10c. to 2.20c.; No. 16, 2.20c. to 2.30c.; No. 18, 2.30c. to 2.40c.; No. 20, 2.30c. to 2.40c.; No. 22, 2.35c. to 2.45c.; No. 24, 2.40c. to 2.50c.; No. 26, 2.50c. to 2.60c.; No. 27, 2.60c. to 2.70c.; No. 28, 2.70c. to 2.80c.; No. 29, 2.85c. to 2.95c. Galvanized Sheets are being sold in this market pretty generally at 80 and 7½ to 80 and 10 discount, Pittsburgh, for carload lots; 75 and 10 and 75, 10 and 5 are the ruling store quotations on small lots, though large desirable specifications would bring a little better price, f.o.b. Chicago warehouse.

Bars.—Iron Bars are firm at a minimum of 1.35c., base, half extras, and if Scrap Iron continues to soar an advance in the price of Bar Iron is inevitable, or mills will have to close down. It is not thought, however, that speculators will be able to force prices of Iron Scrap much higher, as they are already out of all proportion to the price of Pig Iron. Bessemer Steel Bars are still held at 1.51½c., base, half extras, by members of the association and about 1.40c. by outsiders. Hard Steel Angles rolled from Old Rails are held pretty generally at 1.17½c., flat, in car lots at mill. Business in Bars and Small Angles and Channels is disappointing, but better than it was a month ago. Soft Steel Angles, smaller than 3 inches on one leg, are unchanged in their prices of 1.45c., base, Pittsburgh, or 1.61½c., Chicago. Hoops are in slow demand, but prices are unchanged, nominally at least, at 1.71½c. rates, full extras. Store prices are as follows: Iron Bars, 1.70c. to 1.75c., base, full extras; Steel Bars, 1.70c. to 1.75c., base, half extras; Hoops, 2.10c. rates, full extras.

Merchant Steel.—The feeling among sellers of Steel that finds its way into agricultural machinery is that implement makers will turn out an unusually heavy output this winter, and that their specifications will be correspondingly large. This pleasant conclusion is arrived at by a process of reasoning based on large crops, high prices for farm products, and small stocks of implements on hand in agencies and warehouses, rather than by reference to any notable increase in the volume of present contracts or specifications. Official prices on Merchant Steel are as follows: Open Hearth Spring Steel to the general trade, 1.90c. to 2.10c.; Smooth Finished Machinery Steel, 1.76½c. to 1.81½c.; Smooth Finished Tire, 1.71½c. to 1.76½c.; Sleigh Shoe, flat, 1.56½c. to 1.61½c.; Sleigh Shoe, concave and convex, 1.66½c. to 1.71½c.; Cutter Shoe, 2.25c. to 2.35c.; Toe Calk Steel, 2.06½c. to 2.11½c.; Crucible Tool Steel, 6½c. to 8c.; special grades of Tool Steel, 13c. and up; Shafting at 52 per cent. in car lots and 47 per cent. in less than car lots.

Merchant Pipe.—Pipe makers are advising jobbers and other large buyers to fill up their empty warehouses now while prices are low and mills are none too busy and consequently relatively obliging as to the speedy execution of mixed specifications. They point ominously backward to the days when neither threats nor cajoling could secure the execution and shipment of orders within 30 to 90 days from date of specification. But there is no indication that the large buyers are moved perceptibly by the praiseworthy efforts of the mills to forestall the evils which they profess to fear. The prices are unchanged. The following discounts are for carload lots, Chicago:

	Steel Pipe.		Guar. W'ght Iron.	
	Black.	Galv.	Black.	Galv.
	Per cent.	Per cent.	Per cent.	Per cent.
¼ to ¾ inch.....	68.35	53.35	67.35	52.35
¾ inch.....	71.35	61.35	70.35	60.35
¾ to 3 inches.....	76.85	66.85	75.85	65.85
3½ to 6 inches.....	75.35	65.35	74.35	64.35
7 to 12 inches.....	70.85	55.35	69.85	54.35

Boiler Tubes.—No change has occurred either in conditions or prices. The discounts for less than carload lots, Chicago, are as follows:

	Steel.	Iron.	Seamless Steel.
1 to 1½ inches.....	46.35	41.35	52.35
1½ to 2¼ inches.....	58.35	41.35	40.35
2½ inches.....	60.35	46.35	43.35
2¾ to 5 inches.....	66.35	53.35	} up to 4 in. 50.85
6 to 13 inches.....	58.35	41.35	

Carload buyers are given a two-point better discount than the above. Warehouse prices on Boiler Tubes for delivery from store, Chicago, are as follows:

	Steel.	Iron.	Seamless Steel.
1 to 1½ inches.....	42½	37½	40
1½ to 2¼ inches.....	52½	35	37½
2½ inches.....	55	37½	40
2¾ to 5 inches.....	62½	47½	47½
6 inches and larger.....	52½	35	..

Cast Iron Pipe.—The leading producer was awarded the contracts for 2300 tons required by the city of Chicago, details of which were given in our issue of August 4; also 5000 tons for the city of Columbus, Ohio, and 1000 tons for Rockport, Ohio. Prices are firm, due to the strength in price of Southern Iron. We quote: \$25.50 for 4-inch Water Pipe, \$24.50 for 6-inch and heavier, and \$1 extra for Gas Pipe. Large lots command lower prices.

Old Materials.—In the midst of comparative stagnation in other lines, the Scrap market has been characterized by a feverish activity, speculative dealers competing with each other to secure and store the tonnages offered by the railroads at figures out of all proportion to values as compared with Pig Iron and new products. Large mill interests that have endeavored to hold aloof and delay purchasing till after the speculative wave had subsided have concluded to buy in larger quantities than they had intended at prevailing high prices in fear that speculators might, after all, be able to corner the market. The prices named below are approximately those obtained by the Chicago, Milwaukee & St. Paul road on a list aggregating 3700 tons which was closed yesterday, August 16. This list includes among other things 100 tons of Iron and 1000 tons of Steel Rails. The following advances are noted since last week's report: \$1 per ton advance on Iron Fish Plates, Steel Car Axles, No. 1 Dealers' Forge, No. 1 Mill, No. 1 Boilers cut to Sheets and Rings; 75c. per ton advance on Nos. 1 and 2 Railroad Wrought, Wrought Pipe and Flues, Stove Plate and Light Cast; 50c. per ton advance on Iron Rails, Short Steel Rails, Car Wheels, Iron and Steel Axle Turnings, Machine Shop Turnings, Cast and Mixed Borings, No. 1 Cast and Agricultural Malleable; 25c. advance on Long Steel Rails, Railroad Malleable, Country Sheet. The following quotations are per gross ton, Chicago:

Old Iron Rails.....	\$15.50 to \$16.00
Old Steel Rails, 4 feet and over.....	11.75 to 12.00
Old Steel Rails, less than 4 feet.....	10.50 to 11.00
Heavy Relaying Rails, subject to inspection.....	21.00 to 22.00
Heavy Relaying Rails, for side tracks.....	18.00 to 20.00
Old Car Wheels.....	11.50 to 12.00
Heavy Melting Steel Scrap.....	9.25 to 9.75
Mixed Steel.....	8.00 to 8.50

The following quotations are per net ton:

Iron Fish Plates.....	\$13.50 to \$14.00
Iron Car Axles.....	16.00 to 16.50
Steel Car Axles.....	14.50 to 15.00
No. 1 Railroad Wrought.....	11.50 to 12.00
No. 2 Railroad Wrought.....	10.50 to 11.00
Shafting.....	12.50 to 13.00
No. 1 Dealers' Forge.....	9.50 to 10.00
Wrought Pipes and Flues.....	8.00 to 8.50
Iron Axle Turnings.....	7.50 to 8.00
Soft Steel Axle Turnings.....	7.50 to 8.00
Machine Shop Turnings.....	7.00 to 7.50
Cast Borings.....	4.00 to 4.50
Mixed Borings, &c.....	4.00 to 4.50
No. 1 Mill.....	7.00 to 7.50
Country Sheet.....	5.00 to 5.50
No. 1 Boilers, cut to Sheets and Rings.....	8.00 to 8.50
No. 1 Cast Scrap.....	10.00 to 10.50
Stove Plate and Light Cast Scrap.....	8.50 to 9.00
Railroad Malleable.....	8.50 to 9.00
Agricultural Malleable.....	8.00 to 8.50

Metals.—Business shows no improvement over last week. Prices are unchanged, as follows: Casting Copper is being held at 12¼c. and Lake at 13c. Pig Tin is now quoted at 28c. to 28¼c. Pig Lead is quoted at 4.20c. for 50-ton lots, 4.10c. to 4.20c. for car lots and 4.40c. for less than car lots. Spelter is sold at 4.80c. to 4.90c. for car lots and 5.10c. to 5.25c. for small lots. Sheet Zinc is 6¼c. for car lots of 600-lb. casks and 6½c. for less than car lots. Old Metals are stronger and several advances in prices are noted. We quote Copper Wire and Heavy, 11¼c. to 11½c.; Copper Bottoms, 10c.; Copper Clips, 11c. to 11½c.; Red Brass, 9½c.; Red Brass Borings, 8c.; Yellow Brass, Heavy, 7¾c.; Yellow Brass Borings, 6½c.; Light Brass, 5½c.; Tea Lead, 4c.; Zinc, 4.25c.; Pewter, No. 1, 17½c.; Block Tin Pipe, 22½c.

Coke.—Strictly 72-hour Connellsville Foundry Coke is quoted here very generally at \$4.65 per ton, or \$2 at the ovens, though \$1.90 is still heard. Other regions having to

pay the same freight quote \$4.45 to \$4.55. Ovens enjoying the \$2.25 Louisville & Nashville freight are often able to obtain \$2.25 at the ovens or \$4.50 here. The situation embodies some encouraging features and prices are growing firmer.

Birmingham.

(By Telegraph.)

BIRMINGHAM, ALA., August 16, 1904.—As matters stand to-night, the operators have received additions to labor in their mines and there is a manifest crumbling away of opposition and a growing feeling to accept the terms offered and go to work. This is not general, but every day sufficient defections occur to indicate the trend of feeling. It is plain now that the operators have the best of the fight and will hold their advantage. Labor from other districts is being offered freely. September 1 will see the backbone of the strike broken and affairs of the district again at their normal conditions. There is absolutely no change in the Iron market.

(By Mail.)

The great question affecting this district now is the Coal miners' strike now on and its ultimate outcome. It commands more attention than the price of Iron, for on it hinges not only the price of Iron, but the right to conduct business without dictation from those who attempt to limit action in accordance with their ideas. Both sides claim that they are gaining ground. The operators claim that every day some force is being added to their payroll, which though small enables them to keep their mines open and to book orders. So varied and conflicting are the reports as to the progress made in this respect that one is at a loss to arrive at definite results as to this condition. It has been but a few days since the men were invited back to resume operations, and while some have accepted the invitation the great body of the miners have held off and evince no inclination to go to work at the scale of wages offered by the operators. There has been so far no evidence of lawlessness. The miners have kept themselves within the pale of good order and have in every respect been law abiding.

The fight is simply one of endurance. The issues are plainly drawn. The furnace interests are tired of having their operations hampered by unreasonable demands and propose to run their mines according to their own ideas and without dictation from those who have no interest in them beyond the wages paid them. It is probable that the contest will run over several months, but of the final end there can be no doubt. A more favorable time for making the fight in this district could not have been selected.

Rations are being issued in the district to miners who have declined to accept the terms offered by the operators, but when it comes to the question of shelter for their families and they are required to vacate company houses that new labor demands then will come the real test of the strength of the labor union. Some evictions have already been had and more are in process. As a rule they have been given until September 1 to either return to work or vacate the company houses they occupy. It may not be amiss to say here that labor from other districts has been freely offered, and would have been secured but for the desire to employ labor already in the district. If by September 1 the labor now here refuses to accept the terms offered, then drastic measures will be adopted to acquire what may be needed.

The Tennessee Company is building 50 new houses close to its mines at Pratt City for occupancy of its miners who have heretofore been identified with affairs there. Later on they will be followed with other buildings, so that their labor can be concentrated at the point of work.

As to prices of Iron, some No. 1 Foundry sold at \$10, as did also some No. 1 Soft. There were sales of No. 2 Foundry at \$9.50, as well as sales of No. 2 Soft at the same price. There were also sales of No. 3 Soft at \$9.25, and some sales of both No. 4 and Gray Forge at \$8.75 and \$9, but there was no heavy demand.

The Stonega Coke ovens of Southwestern Virginia have been in the market and have been sellers of Coke at prices that would induce the starting up of furnaces. It is too early yet to forecast events.

The McCormick works of the International Harvester Company, Chicago, is to erect a \$75,000 club house for the benefit of its employees and high expectations are expressed of the success of the experiment. A café service on a very large scale will be a feature of the building, meals being served at cost, which is estimated to mean about 11 cents for a dinner and 4 cents for luncheon. There will be a reading room, lounging rooms, gymnasium and baths, as well as rooms for the rest and recreation of the women employees. About 6000 people are employed at the works.

Pittsburgh.

PARK BUILDING, August 17, 1904.—(By Telegraph.)

Pig Iron.—The market has been very quiet since last report. Some further Pennsylvania tunnel Pig Iron has been let, but it is understood that none of the furnaces in this district took any. We note a sale of 2000 tons of Bessemer for August and September shipment at \$12, Valley, or \$12.85, Pittsburgh, and quote the market at this, while for deliveries clear through the year a trifle more is being asked. We note several sales of small lots of Foundry at from \$12.70 to \$12.85, Pittsburgh, the latter price being paid on 200 tons of a buyer's grade lying a little above ordinary No. 2. We note no sales of Standard Forge in this market for a fortnight, but a sale of 300 tons of Forge was made this week at \$11.60, delivered. Basic is quoted firm at \$11.75, Valley, or \$12.60, Pittsburgh. Nothing has been done on Low Phosphorus Pig since a sale about three weeks ago at \$17.75, Pittsburgh. A bid of \$18 has just been turned down, the Valley interest now asking \$18.50. Cranberry could be put in at \$18, but is not so desirable. Altogether the Pig Iron market has been extremely quiet and the tone of the market is considerably less confident.

Ore.—We note a few additional sales of Ore since those reported last week at firm prices. It is represented that inasmuch as all the Ore sold this year has been on a price guarantee, producers would be very loath to cut prices.

Steel.—Meetings of the Billet Committee have been continued in Pittsburgh, the situation being thoroughly discussed. We can state that no official action has been taken, but that some important action one way or another may result by the end of this week. Meanwhile we do not hear of any sales at all being made, while middlemen and consumers are making all sorts of offers for conversions and otherwise. It is claimed that the official Billet price can be shaded materially, but it is very doubtful if any concessions beyond the usual commission could be obtained on Sheet Bars.

(By Mail.)

There is a heavier demand for Wire Nails and Wire Goods generally, the fall trade opening up in good shape. In other Finished Materials the demand is decidedly slack, and shows no improvement. Sheets are firmer than a month ago, but the demand has not improved materially. In Tin Plates the independent mills are rather backward about booking business ahead, but are working quite well on old business. Some grades of Scrap show an improvement in price. Aside from the placing of additional tunnel business, Pig Iron has been very quiet, while prices are only a trifle above the lowest recently made. The advance has been checked, at least for the time being. The Billet situation is being quite generally sounded by consumers and middlemen, but no business of consequence has resulted at cut prices, while, on the other hand, the committee has been meeting frequently in Pittsburgh. At the meeting to-day (Tuesday) no definite action was taken, and the official situation remains unchanged. The leading Steel mills claim that the recent conversion deal has unsettled matters both in Steel and in some finished lines, and this sentiment must be allowed to blow over.

Ferromanganese.—Domestic and English Ferro continue about on a parity, at \$42.50 for carloads and smaller lots, and \$42 or a trifle less on large lots.

Muck Bar.—There is not much activity in Muck Bar, and we quote the market for prime local grades at \$24, delivered, Pittsburgh.

Wire Rods.—There is not much doing in Rods, and we quote the market at \$28 to \$28.50, Pittsburgh, for either Bessemer or Open Hearth.

Skelp.—The market is rather quiet, but production is greater than in July, some mills having started on an accumulation of orders. We quote Grooved Iron Skelp at 1.37½c. to 1.40c., and Sheared at 1.45c. to 1.47½c. Grooved Steel Skelp is held at 1.32½c., and Sheared at 1.35c. Some Sheared Steel Skelp is going out as Plates at slightly higher figures.

Steel Rails.—There is very little doing in Standard Sections, which we continue to quote at \$28. It is reported that the mills will take up the question of fixing the price for 1905 within a month. On Light Rails very low prices continue to be made by some of the mills, as low as \$18, at mill, being reported in several instances for 30 and 40 lb. sections by mills making Rails from new material. Other producers, however, are refusing to go below \$23. On lighter than 30 lb. sections the market generally ranges from \$20 to \$22, at mill. The rerolling mills only succeed in

taking business when they have a material advantage in freight rates. It is reported that the leading interest is moving the mill at Girard, Ohio, for making very light sections to the Lindsay & McCutcheon plant in Allegheny, where some Light Rails have recently been rolled from Old Rails.

Structural Material.—The trade is considerably interested in the attitude of the Lackawanna Steel Company, which has been offered membership in the Beam pool but is not satisfied with the allotment offered. We quote: Beams and Channels, up to 15-inch, 1.60c.; over 15-inch, 1.70c.; Angles, 3 x 2 up to 6 x 6, 1.60c.; Zees, 1.60c.; Tees, 1.60c.; Steel Bars, 1.60c., half extras, at mill; Universal and Sheared Plates, 1.60c.

Plates.—New tonnage is rather light in Plates, the season for extensive undertakings being about over. The mills are turning out a fair tonnage for Steel car works on car orders already noted. On Plates 60 inches and wider the market is being firmly held, but the shading continues by outside mills on narrow Plates. We quote: Tank Plate, ¼-inch thick and up to 100 inches in width, 1.60c., at mill, Pittsburgh; Flange and Boiler Steel, 1.70c.; Marine, A. B. M. A. and ordinary Fire Box, 1.80c.; Still Bottom, 1.90c.; Locomotive Fire Box, not less than 2.10c. and up to 3c.; Plates over 100 inches to 110 inches in width, not less than 5c. per 100 lbs. extra; Plates over 110 inches to 115 inches wide, not less than 10c. extra; Plates over 120 inches to 125 inches wide, not less than 25c. extra; Plates over 125 inches to 130 inches wide, not less than 50c. extra; Plates over 130 inches wide, not less than \$1 extra; Plates 3-16 inch in thickness, \$2 extra; gauges Nos. 7 and 8, \$3 extra; No. 9, \$5 extra. Above prices are on carload lots, f.o.b. at mill, Pittsburgh, with 5c. extra for less than carload lots; terms, net cash in 30 days, and for all points of delivery in the United States except the Pacific Coast.

Sheets.—There is less shading in Sheets than there was two or three weeks ago, when a number of sales were made in which the 2.10c. price was either shaded directly or extras conceded, which amounted to the same thing. Several independent mills are idle from labor troubles and other causes. The trouble at Canton is not yet settled. A prominent Chicago district Sheet mill has been idle for some time and does not expect to start until September. Meanwhile it has been placing some tonnage with other mills to take care of its business. The new plant of the Follansbee Bros. Company, at Mahan Station, W. Va., on the Panhandle, is scheduled to make a partial start on September 5. It contains two Sheet and six Tin mills. The owner, being a large jobbing concern, will market the product. We quote on carload and larger lots, box annealed, one pass through cold rolls: No. 26, 1.95c.; No. 27, 2c.; No. 28, 2.10c. On Galvanized Sheets 80 and 10 off is occasionally done, where there is a large lot with particularly desirable specifications. We quote the ordinary market at 80 and 7½ off, equal to 2.59c. on Nos. 22 and 24, 2.77c. on Nos. 25 and 26, 2.96c. on No. 27 and 3.14c. on No. 28. Jobbers charge the usual advances for small lots from store.

Iron and Steel Bars.—A little inquiry has appeared for Merchant Steel Bars from the agricultural interests, and producers believe this inquiry would be larger were it not for the unsettling influence of the recent Billet deal. A good tonnage is expected to be booked from these interests within a month or two. Specifications on old contracts are light. We continue to quote Bessemer Steel Bars at 1.35c., Pittsburgh, and Open Hearth at 1.40c., base, in carload and larger lots. The demand for Iron Bars is only moderately active, but the leading interest, as well as independents, has started some additional mills on accumulations of orders. On standard quality we quote the minimum of the market at 1.30c., f.o.b. Pittsburgh, but on Bars made from indifferent Scrap this figure might be shaded slightly.

Spikes.—The market is rather inactive, and prices are firmly maintained on what business is going at 1.70 per 100 pounds, f.o.b. Pittsburgh, for less than carloads and \$1.65 for carloads.

Hoops and Bands.—New business is light. We quote Steel Hoops at 1.55c. and Bands at 1.35c., extras as per Steel card.

Merchant Pipe.—There is a fair demand for Merchant Pipe from jobbing interests, but nothing new in Line Pipe. Producers are holding to regular prices quite firmly. We quote discounts to consumers in carload lots as follows:

	Steel.		Iron.	
	Black.	Galv.	Black.	Galv.
	Per cent.	Per cent.	Per cent.	Per cent.
½, ¾ and 1 inch.....	70	55	69	54
1½ inch.....	73	63	72	62
¾ to 3 inches.....	78½	68½	77½	67½
3½ to 6 inches.....	77	67	76	66
7 to 12 inches.....	72½	57	71½	56
Extra strong, plain ends,				
½ to 8 inches.....	69	59	68	58
Double extra strong,				
plain ends, ½ to 8				
inches.....	60	50	56	46

Boiler Tubes.—There is not much new business going,

but prices are well maintained. We quote discounts as follows:

Boiler Tubes.		Steel.	Iron.
1 to 1½ inches.....		48	43
1½ to 2¼ inches.....		60	48
2½ inches.....		62	48
2½ to 5 inches.....		65	55
6 to 18 inches.....		60	43

In carload lots discounts are two points lower than the above.

Merchant Steel.—The market is not very active, although there is some new inquiry from agricultural implement interests. We quote: Plow Slabs, ¾-inch and heavier, 1.60c.; Tire Steel, 1.55c. to 1.60c.; Sleigh Shoe, flat, 1.40c. to 1.45c.; Cutter Shoes, 2.05c. to 2.10c.; Plow Steel, 6 inches and under, 1.35c.; Toe Calk Steel, 1.85c. to 1.90c.; Crucible Tool Steel, 6c. to 8c. for ordinary grades and 12c. and upward for special grades. Shafting is 52 per cent. off in carloads and 47 per cent. in less than carloads, delivered.

Spelter.—The market has been very quiet and uneventful. We continue to quote Prime Western Grades at 4.70c., Pittsburgh.

Tin Plate.—The demand has been principally for early delivery, consumers not having entirely digested the recent reduction and not being anxious to contract ahead. The independent mills that are running are well filled with business for 30 days or more. As noted under another head, the Follansbee Bros. Company will start the new mill in three weeks, but this does not really add a new Tin Plate producer, since the company has been operating a dippery of smaller capacity. This will give three regularly operative Tin mills in the Ohio Valley, with a total of 22 hot mills. In the Pittsburgh district there are now operating about 20 hot mills, with a dozen or so idle temporarily. We quote the market firm at the official price of \$3.30 for 100-lb. Coke Bright Plates, f.o.b. Pittsburgh district mill, 30 days, less 2 per cent. for cash in 10 days.

Coke.—It is reported that a Shenango Valley furnace interest has just contracted for a large lot of by-product Coke from the new plant at Sharon, at a price materially lower than beehive Coke. The market on Standard Connellsville Coke continues pretty firm at \$1.45 to \$1.50, at ovens, for furnace on contract. Small lots of 72-hour Foundry Coke are selling at \$1.75 to \$1.85. Outside grades continue to be offered down to \$1.35 and even lower for furnace, and \$1.60 for Foundry.

Iron and Steel Scrap.—Two or three Steel interests are expected to buy Heavy Melting Stock within 30 days and are now sounding the market by offering \$11.50, delivered. There is quite a lot of such stock in the yards of dealers who would not let it go at this figure, or even at \$12, but some small sales are being made between these limits where the material can be picked up and handling saved. Cast Borings have had a sharp advance, owing to some additional demand on the part of the Iron mills, the supply having been rather heavily drawn upon by some Open Hearth Steel works which have been using an unusually large quantity of Borings in their work. The price at Pittsburgh has been jumped to \$6, while \$6.50 was done in one instance, and it is reported that in one instance \$6.75, at Youngstown, was paid. These prices are regarded as only incidental, since the material is no attraction to Steel makers at such figures. Producers of Sheet Scrap are asking much higher figures, but not getting them. We quote the current market as follows: Heavy Melting Sock, \$11.50 to \$12; Low Phosphorus, \$15 to \$15.50; Bundled Sheet Scrap, \$9 to \$9.25; Cast Borings, \$6 to \$6.50; Steel Turnings, \$7.50 to \$7.75; Cupola Scrap, \$10.50 to \$10.75, all per gross ton. No. 1 Wrought Scrap is quoted at about \$10.50 per net ton.

W. R. Beatty, formerly general superintendent of the works of the New Castle Forge & Bolt Company, New Castle, Pa., who has associated himself with William Ward, second-hand machinery, House Building, Pittsburgh, Pa., will take charge of a department of the business, but the firm name will not be changed, as was stated in a previous issue, the business still remaining in the name of William Ward, as heretofore.

Cincinnati.

FIFTH AND MAIN STS., August 17, 1904.—(By Telegraph.)

Pig Iron.—The week just ended has seen few developments in the Iron market, other than increased demand at lower prices for Northern Iron. Buying of Northern Iron in Ohio, Western Pennsylvania and Western New York has been extremely satisfactory, so far as tonnage is concerned, but, on the other hand, increased buying has been brought about by a sacrifice in prices, and \$11.50, f.o.b., is named as the price of Northern No. 2 Foundry. This figure is quoted by the Detroit, Toledo, Columbus, Wellston, Ironton and Valley furnaces, and they are said to be willing to take business on this basis for delivery throughout the balance of the year. As far as can be learned, however, comparatively little buying for delivery beyond the end of the year

has been done, but we note sales for delivery over the first three months of next year in Richmond, and Piqua, Ohio, and one large sale at Springfield, Ohio, of Northern No. 2 Foundry said to have been closed on basis of \$12.30, delivered. This same grade is reported to have been sold in small quantities in Dayton at \$12.55, delivered, this being \$9.35, Birmingham, and representing the first point in Ohio north of Cincinnati at which Northern Iron has sold below the prices of Southern. It is a well-known fact that practically no Southern Iron has been disposed of in this market or any of the markets of the East excepting along the Atlantic coast, where a very considerable tonnage of Birmingham Iron has been placed. One agent is reported as having sold more Iron on a daily average during the past ten days than for 18 months previously. Ten thousand tons of this amount went to one agricultural implement maker and 8000 tons to another, delivery being made in Eastern territory. He also sold 5000 tons to a concern in Northern Ohio, as well as a number of large lots in Chicago territory. A slightly improved demand is noted from the Foundry trade, and there is a growing feeling among foundrymen that conditions will gradually improve within the next few months. We learn that the new furnace of the Lookout Mountain Iron Company at Battelle will be ready for operation on September 1. Freight rates from Hanging Rock district to Cincinnati, \$1.15, and from Birmingham, \$2.75. We quote, f.o.b. Cincinnati, as follows:

Southern Coke, No. 1.....	\$12.50 to \$12.75
Southern Coke, No. 2.....	12.00 to 12.25
Southern Coke, No. 3.....	11.50 to 11.75
Southern Coke, No. 4.....	11.25 to 11.50
Southern Coke, No. 1 Soft.....	12.50 to 12.75
Southern Coke, No. 2 Soft.....	12.00 to 12.25
Southern Coke, Gray Forge.....	11.00 to 11.25
Southern Coke, Mottled.....	10.75 to 11.00
Ohio Silvery, No. 1.....	15.65 to 16.15
Lake Superior Coke, No. 1.....	13.15 to 13.65
Lake Superior Coke, No. 2.....	12.65 to 13.15
Lake Superior Coke, No. 3.....	12.15 to 12.65

Car Wheel and Malleable Irons.

Standard Southern Car Wheel.....	\$16.25 to \$16.75
Lake Superior Car Wheel and Malleable	15.80 to 16.30

Coke.—Demand for Coke shows some improvement, perhaps due to the fact that a shade lower price obtains. The best brands of Virginia Foundry Coke can be had at \$1.65, at ovens, while Connellsville can be bought at \$1.75, at ovens. There appears to be very little contracting at these low prices, and the trade shows little disposition to push matters.

Plates and Bars.—The tone of the market is steady and demand is on the increase. While nothing in the way of large business is in the field, there is an evenly distributed business that speaks well for the future. We quote, f.o.b. Cincinnati, as follows: Iron Bars, in carload lots, 1.40c., with half extras; the same in smaller lots, 1.70c., with full extras; Steel Bars, in carload lots, 1.48c., with half extras; the same in smaller lots, 1.80c., with full extras; Base Angles, 1.73c., in carload lots; Beams and Channels, in carload lots, 1.73c.; Plates, ¼-inch and heavier, 1.73c., in carload lots; in smaller lots, 2c.; Sheets, 16-gauge, in carload lots, 2.05c.; in smaller lots, 2.60c.; 14-gauge, in carload lots, 1.95c.; in smaller lots, 2.50c.; Steel Tire, ¾ x 3-16 and heavier, 1.68c., in carload lots.

Old Material.—Generally speaking, there is no apparent change. Dealers report some small transactions, but nothing of importance is known to have transpired. We quote dealers' prices, f.o.b. Cincinnati, as follows: No. 1 Railroad Wrought Scrap, \$11 to \$11.50 per net ton; No. 1 Cast Scrap, \$9.25 per net ton; Iron Rails, \$14.50 per gross ton; Steel Rails, rolling mill lengths, \$11 to \$11.50 per gross ton; Iron Axles, \$15 per net ton; Car Wheels, \$11 to \$11.50 per gross ton; Heavy Melting Scrap, \$11.50 per gross ton; Low Phosphorus Scrap, \$11.50 to \$12 per gross ton.

Cleveland.

CLEVELAND, OHIO, August 16, 1904.

Iron Ore.—The week has been marked by a drop of 5c. in the carrying charges between the head of the lakes and Lake Erie docks. This was due partly to the overplus of tonnage now engaged in the general carrying trade on the lakes and partly to other conditions which sent a large percentage of this enormous fleet to the head of Lake Superior rather than to Marquette or Lake Michigan ports. Carrying charges are now down to about the low level for ten years past, being 65c. from Duluth, 60c. from Marquette and 50c. from Escanaba to Ohio ports. The demand for Ore at the furnaces is only about 50 per cent. of what it was at this time a year ago. The shipment by rail from the lake docks to the furnace stock piles shows a slight improvement this month over a month or six weeks ago. Sales of Ore to date indicate a tremendous scaling down of buying orders. Prices hang about as they have been, the Bessemer being quoted at \$3.25 for old range and \$3 for Mesaba, base quality, while the non-Bessemer of the base quality range from \$2.60 to \$2.75 for old range and \$2.40 to \$2.50 for Mesaba, all f.o.b. Lake Erie ports.

Pig Iron.—As far as Foundry Irons are concerned the market seems to have struck a livelier gait. The furnaces in

this territory tell of better buying for immediate use and of a better disposition to buy for the future. The current needs, however, are not sufficient to cause an increase of productive capacity, although the statement is made that in some instances furnaces are selling in excess of their output and are drawing from stocks. There is an increased tendency to buy past January 1, but the furnace owners are discouraging buyers by the advanced prices which are asked for such delivery. The market now stands at \$11.75 as the minimum for No. 2 and \$12 the minimum which can be had on contracts, but there is a general disposition to hold for 25c higher, and some furnaces are making those prices their minimum. There is a little better demand for Malleable, buying orders being rather free at \$12. The buying movement in Bessemer and Basic seems to have spent itself with the rush of buying a short time ago. It is now generally conceded that \$12, in the Valleys, is bottom price for either. The Coke market has stiffened a little, because there is a slightly better demand and because the railroad situation is getting a little complicated. In the main the old prices prevail. Good 72-hour Foundry Coke is bringing \$2, with some of the other Cokes which are not quite so well known selling at \$1.80 and upward. The best grades of Furnace Coke are selling at \$1.40 to \$1.50. We quote Pig Iron prices as follows:

Northern Coke, No. 1 Foundry.....	\$13.50 to \$13.75
Northern Coke, No. 2 Foundry.....	13.00 to 13.25
Northern Coke, No. 3 Foundry.....	12.50 to 12.75
Southern Coke, No. 1 Foundry.....	13.35 to 13.60
Southern Coke, No. 2 Foundry.....	12.85 to 13.10
Southern Coke, No. 1 Soft.....	13.35 to 13.60
Southern Coke, No. 2 Soft.....	12.85 to 13.10
Jackson County, 8 per cent. Silicon.....	to 16.45
Hanging Rock Charcoal, No. 1.....	to 23.45
Southern Charcoal, No. 1.....	to 17.85
Lake Superior Charcoal.....	15.50 to 16.00

Finished Iron and Steel.—The market technically is very much stronger than it has been for a number of months. The buyers in this territory are reporting their estimating departments very much busier. In some instances buyers have not covered their requirements by contracts, and yet have orders for their own products, running several months ahead. This indicates an impending demand for Steel, which will presently result in a rush of buying orders. The greater activity among consumers in this territory begins to date about September 1. In Structural Material there is greater strength displayed. The orders are all to cover current needs, and the market in that respect is more buoyant. The price holds at 1.60c., Pittsburgh, with some small mills shading it on lots where specifications are limited as to sizes. The Plate situation is a trifle stronger. The big buyers are still holding off, and the present market seems to be among the small consumers. These are not contracting, but are covering their needs as they appear. The Sheet situation is a little stronger in spots. The buying is of a better nature. It is indicated in the trade that the greater rush of orders to some mills results from the closing down of others, hence the aggregate buying of the trade is not increased. Mill sales of car lots of Black Sheets are made on the basis of 2.05c. for No. 27. The same gauge out of stock is quoted 2.50c. The Bar Iron situation is spasmodic, but shows some improvement. The mills recently resuming operations are running hand to mouth, but find enough to keep them going. The price holds at 1.30c., at the mill, with in some instances a slightly lower price, although this is exceptional.

Old Material.—The market has shown a little strength from the seller's side but not from the buyer's. Prices show a slight improvement. We revise and quote all gross tons: Old Steel Rails, \$12; Old Car Wheels, \$11 to \$12; Heavy Melting Steel, \$11 to \$11.50. All net tons: Cast Borings, \$4; No. 1 Busheling, \$10.50; No. 1 Railroad Wrought, \$11.50 to \$12; Wrought Turnings, \$7; Iron Car Axles, \$16 to \$17; No. 1 Cast, \$10.50; Stove Plate, \$7 to \$7.50.

Notice has been given to all stockholders of the Silberman Iron Company, Cleveland, Ohio, that on September 12 a meeting will be held, at which a resolution is to be acted upon providing for the dissolution of the company, which has completely closed its business and paid all its debts and liabilities.

German Pig Iron Production for Six Months.—The statistics of the German output of pig iron for the first six months of 1904 show a total make of 4,999,413 metric tons, against 4,934,532 tons in the first six months of 1903. The output of different descriptions compares as under for the six months, in metric tons:

	1904.	1903
Basic iron.....	3,174,401	3,013,371
Foundry.....	898,890	883,763
Forge iron.....	411,436	450,956
Spiegelisen, &c.....	293,813	376,738
Bessemer iron.....	220,873	200,701
Totals.....	4,999,413	4,934,532

It will be noted that the increase in 1904 is 64,881 tons, or at the rate of 129,762 tons annually.

Philadelphia.

FORREST BUILDING, August 16, 1904.

The most intense interest is manifested in regard to the Iron and Steel trades, as some appear to expect another such movement as that during 1899 and 1900. This, however, is extremely improbable, although we may not be running into such a period of depression as that which extended from 1893 to 1898. It is now clear that the culmination of the greatest activity that the Iron trade has ever known was toward the close of 1902, and if experience is any guide, it is not to be supposed that anything like a complete recovery will be met with during 1904 or 1905. A partial recovery may be made this year, but, if not this year, there is quite a fair chance for it next year, if certain things happen. One essential will be a good corn crop, another will be a good cotton crop, and the third will be a little common sense on the part of labor. These are all more or less uncertain, although the chances are remarkably good in regard to the first two, and it is hoped they are not bad in regard to the latter, but any marked improvement in the Steel trade will depend a good deal on developments along the lines named. This leaves a month or six weeks during which the outcome will be a matter of faith rather than of certainty. The increased activity in the West is regarded in some quarters as the inception of an improvement which will reach considerable proportions in a short time. Perhaps it will, and if there is no recession until the corn and cotton crops are made, the movement may carry the trade well through the winter months. It should be noted, however, that the little word "if" is an important factor in this diagnosis, but it is indispensable as a factor of safety. Assuming that nothing out of the ordinary develops, it is almost certain that the lowest point of depression has been reached for 1904. There was very little business last month, there has been considerable during the first half of this month, and from present appearances it will be maintained to the end, and if in the meanwhile nothing unfavorable occurs, the prospect for the remainder of the year will be considerably strengthened. Nevertheless, this does not necessarily mean anything approaching a "boom," or even a great revival. The restriction in the output of Pig Iron is an effective object lesson, and the trade are beginning to feel that when, in the early summer, a production of less than 1,000,000 tons per month was predicted for the last half of the year, it meant something. The estimate made two or three months ago is likely to be carried out to the letter, and if Pig Iron cannot be marketed at to-day's prices, a further curtailment will be in order. The effect upon the market, however, appears to have been salutary. Large buyers are coming into the market and liberal quantities are being taken at quoted rates. This does not imply that there is any probability of scarcity, or of higher prices, or a greatly increased demand, but it does mean that last week's prices were bottom prices. Beyond that the market must work out its own salvation. If there is to be any marked increase in consumption prices will harden; if consumption cannot be maintained, production will be lessened, and that covers the whole ground. In regard to the immediate situation, we have already said that it is a great improvement on last month. Reports from consumers as a rule are only moderately favorable. After such stagnation as that during June and July it would be bad indeed if August was no better. It is better, not because of any distinct improvement in the underlying conditions, but because it had to be better unless it was to be a case of complete paralysis. It is quite possible, and, as already stated, it is not at all improbable, that the betterment will run all through the month, and, under certain contingencies, all through the remainder of the year. For the present it is gratifying to be able to say that things are not only a little better, but they look better, and in any case are not likely to be worse. There is an uneasy feeling in regard to the prices of finished products, however. Pig Iron and Scrap Material are several dollars per ton lower than they were a year ago, yet the official prices on some leading specialties are unchanged. Whether there would be any more business at lower prices or not is not the question. The feeling among consumers is that prices are out of proportion, and, moreover, the inducement to make roundabout cuts is almost irresistible, so that it is impossible to feel any great confidence in regard to prices of some of the prominent specialties. This is a matter upon which definite action is likely to be taken during the next few days, so that further comment at this time is unnecessary.

Pig Iron.—In spots the market is better; in other cases it is steady to firm, without being better otherwise. The demand for Foundry Irons is good, but not strong enough to be called active. The improvement is more especially in special Irons, such as Low Phosphorus, which is easily 50c. better, and Basic, which is quoted higher, but without leading to business. On the whole, it is probable that while no general advance will be obtained, neither will concessions be made unless there is another change to less favorable conditions. The decrease in production, as shown in *The Iron Age* of last week, is likely to be more effective this month than it was during July, because the full extent of the curtailment

was not made until the month expired, and, moreover, the first half of the month was almost a blank as regards consumption. Conditions during August, therefore, are likely to be much more favorable than during July. It should be noted, however, that there is no distinct change in general conditions. All that has been said thus far has had reference to adjustments between supply and demand and not to new business specifically. The increase in demand is not very noticeable. Contracts that ran out during the past few weeks have been renewed and shipments are somewhat heavier, but, having in mind the dullness during June and July, there is nothing remarkable in the better movement at the present time. The movement during September and October will tell the story, but what that will be time alone can determine. For the present prices are firm, perhaps a shade better on the whole, but not enough to change quotations, although there has been more business at outside and less at the inside figures, as follows, for Philadelphia and equivalent deliveries:

No. 1 X Foundry.....	\$15.00 to \$15.25
No. 2 X Foundry.....	14.25 to 14.50
No. 2 Plain.....	13.50 to 13.75
Standard Gray Forge.....	13.00 to 13.25
Ordinary Gray Forge.....	12.50 to 12.75
Southern No. 2 X Forge, rail.....	13.75 to 14.00
Basic.....	12.75 to 13.00
Low Phosphorus.....	17.50 to 18.00

Steel.—The demand is of an irregular and spasmodic character, but, on the whole, the mills hold their own fairly, and have some prospect of betterment in the near future. Prices are steady at about \$24, delivered, for ordinary qualities, with the usual premium for special analysis.

Plates.—The demand has been somewhat better, and mills have more work in hand than for some time past. Orders are not for very large lots, neither is there much work of that kind in prospect, but the miscellaneous demand is quite encouraging. Prices unchanged, as follows:

	Carloads.	Part carloads.
	Cents.	Cents.
Tank Steel, ¼-inch and heavier.....	1.73½	1.78½
Tank Steel, 3-16-inch.....	1.83½	1.88½
Tank Steel, Nos. 7 and 8, B. W. G.....	1.83½	1.88½
Tank Steel, Nos. 9 and 10, B. W. G.....	1.93½	2.03½
Flange or Boiler Steel.....	1.83½	1.88½
Commercial Fire Box Steel.....	1.93½	1.98½
Still Bottom Steel.....	2.03½	2.08½
Locomotive Fire Box Steel.....	2.23½	2.28½
Plates over 100 to 110 inches.....	.05 per lb. extra	
Plates over 110 to 115 inches.....	.10	
Plates over 115 to 120 inches.....	.15	
Plates over 120 to 125 inches.....	.25	
Plates over 125 to 130 inches.....	.50	
Plates over 130 inches.....	1.00	
All sketches (excepting straight taper plates varying not more than 4 inches in width at ends, narrowest end being not less than 30 inches).....	.10	
Complete Circles.....	.20	

Structural Material.—The same remarks apply as in the preceding paragraph, although there are more "back logs" than there are in the Plate trade. Leading concerns are well employed, and, on the whole, prospects are more favorable than they have been for some time past. Prices unchanged, as follows: Beams, Channels and Angles, 1.73½c. to 1.85c., according to specifications, and small Angles, 1.50c. to 1.55c.

Bars.—The Bar trade has been somewhat more active during the past week or two, and some good sized orders have been entered. There is the usual talk of price cutting, but it is hard to say what there is in it. Some who quote association prices say they lose their trade, presumably because others take it for less money. A meeting of the Eastern Bar Iron Association is to be held this week, when no doubt the question will be fully considered. Meanwhile prices are quoted at 1.48½c. and upward for either Refined Iron or Steel.

Sheets.—A slightly better movement is reported in Shets, and, while prices are unsatisfactory, the demand is pretty good, mills now running full time.

Old Material.—There is no change of any importance. Prices are steadier than they have been for some time past, but the demand is not active, although some specialties such as Car Wheels and Choice Railroad Scrap bring better prices than they did during July. Prices are about as follows for deliveries in buyers' yards:

No. 1 Steel Scrap.....delivered	\$11.75 to \$12.25
Old Steel Axles.....	14.50 to 15.00
Old Iron Axles.....	17.50 to 18.00
Old Iron Rails.....	14.00 to 15.00
Old Car Wheels.....	11.50 to 12.50
Choice Scrap, R. R. No. 1	
Wrought.....	13.50 to 14.00
Machinery Scrap.....	11.50 to 12.50
Low Phosphorus Scrap.....	16.00 to 16.50
Wrought Iron Pipe.....	9.50 to 10.00
No. 1 Forge Fire Scrap.....	9.50 to 10.50
No. 2 Forge Fire Scrap, Ordinary.....	7.75 to 8.25
Wrought Turnings.....	8.50 to 9.00
Cast Borings.....	6.50 to 7.00
Stove Plates.....	9.00 to 9.50

F. Rees Phillips, until recently in charge of the Pittsburgh office of F. R. Phillips' Sons & Co., is now in charge

of the Philadelphia business. The Pittsburgh office will be continued as a branch of its business, while W. Vernon Phillips will have charge of the London office at 13 Line street in that city.

The New York Machinery Market.

NEW YORK, August 17, 1904.

From every standpoint the week just closed presented a view of typical midsummer quietness. The ranks of the selling forces on Liberty street were thinned out considerably, but we are informed that the absent ones are searching for cooling breezes rather than machinery orders. It is quite evident that they have but followed the lead of the prospective purchasers, who have doubtless hied off to the mountains or sea shore, as not a word has been heard from them and their orders are still in the prospective stage. In all branches of the trade and concerning big and little business the spirit of procrastination predominated. Inquiry was also a little more backward. There was not enough business offering to warrant any marked price cutting, but we understand that in several lines especially there is manifest willingness to shade prices considerably to capture business.

In connection with foreign trade an improvement in orders from Germany is reported. A representative of Schuchardt & Schutte stated yesterday that the increase of orders from Germany was due to a steady improvement in industrial conditions now in progress there. Unless complications arise in connection with the war in the Far East, he said, things should continue to show steady improvement. The machinery trade with all other countries is rather quiet at present.

No new developments are to be recorded in connection with the Pennsylvania Railroad tunnel and similar projects which we have been following in this column. It is whispered in the trade that the Philadelphia & Reading system may close soon on the large list of machine tools on which they have recently received bids. The other large railroad matters, to which we have previously referred, still remain in statu quo.

The plant of the Stilwell-Bierce & Smith-Vaile Company of Dayton, Ohio, was sold at auction last Thursday under an order of the United States District Court to Col. J. D. Platt, the president of the Barney & Smith Car Company of Dayton, who has for several years been active in the supervision of the Stilwell-Bierce establishment. The purchase price was \$775,000, which is \$119,202.50 less than two-thirds of the appraised value, \$1,265,870.22, less \$73,600 as cost of the change of inventory since the appraisal was made. Bankruptcy proceedings were brought in the United States Court, and it remains for that judiciary to confirm the sale. There were no other bidders, though representatives of capitalists were present.

It was reported that the bondholders intended to form a company, and that the International Steam Pump Company was a prospective buyer, but only Mr. Platt's bid was made. The offer was submitted by John A. McMahon, counsel for Mr. Platt, who presented two bids, the other being \$10,000 less than the successful offer, but it excluded real estate in Dayton View. Mr. Platt is quoted as saying: "I now own the entire plant, and it will run, if the sale is confirmed." It is understood that Mr. Platt held a large mortgage against the plant.

There is a movement on foot looking toward the establishment at New Orleans, La., of a large dry dock. Woodward, Wight & Co., Limited, of New Orleans, are among the principal financial interests heading the project. A site has been secured and Walter Thompson, superintendent of the Raritan Dock Company, Perth Amboy, N. J., is at present in New Orleans with plans and specifications for a dock that will take vessels up to 5000 tons capacity. Estimates are now being received on the lumber, spikes, bolts and other materials required, and it is expected to begin work on the dock within the next 30 days, so that it will be completed and ready for use within a year. Interested with the firm of Woodward, Wight & Co., Limited, are Morris Stern, Frederick Camors and George Hero of New Orleans. It is intended to incorporate a company with a capitalization of about \$500,000. J. D. O'Keefe, secretary of Woodward, Wight & Co., Limited, is in charge of the details.

The Morse Iron Works, of which Thomas G. Morse, 311 East Eighth street, Erie, Pa., is president, has just selected a site comprising 17 acres in Erie for a large plant. It will be devoted to the manufacture of malleable and cast iron fittings for steam, water, gas and other purposes and plumbers' brass goods and supplies. Plans for the new works are now being prepared. The buildings will cost about \$150,000. Mr. Morse was formerly superintendent of the Jarecki Mfg. Company's plant at Erie, Pa. In addition to the lines named above it is proposed to build a new type of pipe tapping and threading machine invented by Mr. Morse. The plant is to be electrically operated, requiring about a 300 horse-power electric generating station. In addition to Mr. Morse the directors of the company are Frank Payne, William Spencer, Fred. Koehler, A. W. Walker, C. M. Conrad, Edward Roach, Robert G. Saltsman, James M. Sherwin.

It is reported in the trade that specifications have been issued by A. M. Cristoffanini of Garibaldi 18, Genoa, Italy, for the mechanical equipment to be installed in a new structural steel shop. The plant is to be built in Northern Italy. The specifications call for one plate bending roll machine with three rolls, to be driven by three electric motors; one plate bending roll machine with four rolls and two motors; one plate roll bending machine with three rolls and one motor; one angle iron bending power machine with four rolls, to be operated by a motor; one planing machine for flanging iron plates, to be driven by a motor; one punching cutting machine with motor, and two lathes to be operated by motors. In all about 500 horse-power of motors will be installed in the plant. There will also be 11 electric traveling cranes, varying in capacity from 3 to 10 tons each. A member of the trade conversant with the project stated to a representative of *The Iron Age* that H. Wingen, manager of Schuchardt & Schutte's branch at Milan, is following the matter closely.

The Singer Mfg. Company, Elizabethport, N. J., is now considering the purchase of two 150 horse-power engines to be installed at its new plant at St. Johns, Quebec. The order for the boilers has been placed with the Babcock & Wilcox Company.

The Mexican Car & Foundry Company S. A., City of Mexico, has placed the order for the iron working machinery required for its new plant with the Niles-Bement-Pond Company and has purchased the wood working machinery from the J. A. Fay & Egan Company.

The Bureau of Supplies and Accounts, Navy Department, Washington, will receive bids until August 30 for a turning lathe, sensitive drill, locomotive crane, riveting hammer, air pump, motors, hydraulic wire rope cutter and a quantity of miscellaneous supplies for the navy yards at League Island, Washington, and the Naval Academy, Annapolis.

The following bids were opened August 9 for the Portsmouth, Boston, New York and League Island navy yards:

- Bidder 1. Niles-Bement-Pond Company, New York.
- 2. Wm. Sellers & Co., Inc., Philadelphia, Pa.
- 3. Lambert Hoisting Engine Company, Newark, N. J.
- 4. Motley Green & Co., New York.
- 5. Camden Iron Works, Camden, N. J.
- 6. The Hendey Machine Company, Torrington, Conn.
- 7. Burnham, William & Co., Philadelphia, Pa.
- 8. Eli H. Allen, Boston, Mass.
- 9. The Alliance Machine Company, Alliance, Ohio.
- 10. Drew Machinery Agency, Manchester, N. H.
- 11. The Union Steam Pump Company, Battle Creek, Mich.
- 12. H. K. Porter Company, Pittsburgh, Pa.
- 13. A. S. Cameron Steam Pump Works, New York; informal, no guarantee.
- 14. American Locomotive Company, New York.
- 15. Hyde Windlass Company, Bath, Maine.
- 16. The Apex Equipment Company, New York.
- 17. Fox Bros. & Co., New York.
- 18. Wm. H. Wood, Media, Pa.
- 19. Williamson Bros. & Co., Philadelphia, Pa.
- 20. American Ship Windlass Company, Providence, R. I.
- 21. Marcus B. Tidey, Newark, N. J.
- 22. The Bridgeport Safety Emery Wheel Company, Bridgeport, Conn.
- 23. The George F. Blake Mfg. Company, New York.
- 24. Marshall T. Davidson, Brooklyn, N. Y.
- 25. Allington & Curtis Mfg. Company, Saginaw, Mich.
- 26. The Warren Steam Pump Company, Warren, Mass.
- 27. The Lima Locomotive & Machine Company, Lima, Ohio.
- 28. The Exeter Machine Works, Pittsburgh, Pa.
- 29. Manning, Maxwell & Moore, New York.
- 30. Sterling Blower & Pipe Mfg. Company, New York.
- 31. The New Britain Machine Company, New Britain, Conn.
- 32. George Place, New York.
- 33. Berlin Machine Works, Beloit, Wis.

Class 1. One new model, 14-inch swing, 6-foot bed, gibbed, carriage, engine lathe, electrically driven—Bidder 1, \$987; 6, \$750.

Class 2. One four-roll single surface planer, electrically driven—Bidder 1, \$1298; 32, \$1274; 33, \$773.45.

Class 3. One four-roll single surface electrically driven planer—Bidder 1, \$1298; 32, \$1274; 33, \$773.45.

Class 4. Six-roll double surface planing machine, electrically driven—Bidder 1, \$2009; 32, \$1985; 33, \$1764.

Class 5. One 30-inch automatic knife grinding machine, electrically driven—Bidder 1, \$482; 22, \$311.50; 32, \$585; 33, \$384.15.

Class 6. One 30-inch automatic knife grinding machine, electrically driven—Bidder 1, \$482; 22, \$311.50; 32, \$585; 33, \$384.15.

Class 7. One electrically driven grinding and polishing machine—Bidder 1, \$199; 22, \$198.

Class 8. One outside molding machine, 13 x 8 inches, electrically driven—Bidder 1, \$1717; 32, \$1685.

Class 9. One triple column outside molding machine, electrically driven—Bidder 1, \$1365; 32, \$1495.

Class 10. One heavy power feed cut off sawing machine, 32 inches, electrically driven—Bidder 1, \$1380; 29, \$966; 32, \$1127.

Class 11. One new pattern combination saw and dado machine, electrically driven—Bidder 1, \$474; 21, \$448.50; 32, \$575.

Class 12. One 20-inch electrically driven cut off sawing machine—Bidder 1, \$221; 21, \$277; 32, \$570.

Class 13. One chain saw mortising machine, 13 inches, electrically driven—Bidder 1, \$1038; 29, \$1025; 31, \$1038.

Class 14. One 16-inch electrically driven swing cut off machine—Bidder 1, \$216; 21, \$241.50; 32, \$535.

Class 15. One new automatic saw setting machine—Bidder 1, \$71.50; 32, \$73.75.

Class 16. One perfect knife balancing machine, one combination adjustable saw set, one new automatic saw setting machine and one improved matcher cutter setter—Bidder 1, \$161.50; 32, informal.

Class 17. One bending machine, hydraulic—Bidder 1, \$1400; 2, \$1560; 5, \$1160; 9, \$1353; 18, \$1500; 29, \$1250.

Class 18. One vertical drilling machine, electrically driven—Bidder 1, \$315.

Class 19. One wood boring machine, combination, electrically driven—Bidder 1, \$695.50; 32, \$699.

Class 20. One tenoning machine, electrically driven—Bidder 1, \$392; 32, \$565.

Class 21. One automatic plug machine, 1½ inch, electrically driven—Bidder 1, \$714.

Class 22. Twenty vertical single double acting feed pumps for steam cutters—Bidder 4, \$2600; 10, \$1520 and \$990; 11, \$1380; 17, \$2249.80; 23, \$1239; 24, \$1250; 26, \$1134.

Class 23. Six 7 x 10 inch single drum steam winches—Bidder 3, \$3897; 4, \$3150; 15, \$3750; 19, \$5100; 20, \$3300; 28, \$3060; 29, \$3270.

Class 24. One steam and hand steering engine—No bids.

Class 25. One warping engine, 12 x 12 inch—Bidder 15, \$625; 19, \$1800.

Class 26. One four-wheel saddle tank switching locomotive—Bidder 4, \$4025; 7, \$4290; 12, \$3685; 14, \$4100; 16, \$3500; 27, \$4473.

Class 27. Material and labor for modifying and reinstalling the systems for disposing of dust and shavings of building No. 36—Bidder 8, \$1500; 25, \$2098; 30, \$2400.

P. H. MaGirl, Bloomington, Ill., manufacturer of Mammoth tubular masonry furnaces, Brown's patent stop gate box and patent sectional metal arch culverts, is in the market for one or two air hoists or lifts, and desires catalogues and prices from manufacturers.

The Belgian Iron Market.

BRUSSELS, August 5, 1904.

Taken as a whole the past month cannot be considered to have been favorable to the metallurgical industry of Belgium. On the contrary, the amount of work has fallen off, owing to the decline in the demand for export, and the mills have had the greatest trouble to maintain even the low prices which were established during the preceding month. The position of the mills has been all the more unsatisfactory because of the great heat. The efficiency of the workmen falls off very materially, so that the cost of production during July was very appreciably affected to the disadvantage of the producer.

The negotiations, started with the object of creating an international understanding between Germany, France and Belgium, have been interrupted by reason of the diversity of interests which it has seemed impossible to conciliate. It is not reasonable to expect negotiations to progress before the month of October, in view of the holiday season.

The Pig Iron market is quiet but firm. Luxemburg Foundry Pig is quoted 59 francs on cars at the furnace, but there are no transactions at this price, those foundries which are in the habit of covering their contracts by purchases being taken care of for a series of months in advance. The production of the two only Belgian furnaces making this grade, Musson and Halanzy, is almost entirely covered until the end of the year. On Forge the price is 52 francs on cars. Athus, equivalent to 57 francs delivered Charleroi. Thomas Pig remains at 62 francs.

So far as Steel is concerned the market has undoubtedly weakened during the last four weeks. The German Lorraine has been pressing upon our markets, and with the object of securing orders the sellers go so far as to grant to consumers credits so extended that the consumer has converted the material in the meantime. Thus far these offers have not led to any large transactions. The rolling mills, the majority of whom took care of their requirements while the prices were very low, take the ground that the figures now offered are very much too high for them. It may be noted that it is the fact that Blooms have been fur-

nished by Germans to the Belgian mills at very low prices that have enabled the latter to take a large part of the orders now offering for export. German Blooms can now be purchased at 90 francs, Billets at 95 francs and Sheet Bars at 100 francs.

Old Material is at this time weaker, although the large dealers are trying hard to maintain prices at 67.50 francs for special quality for rolling mill purposes. Muck Bars are held very well at 92.50 francs.

So far as Finished Products are concerned the greater part of the mills are not well supplied with work, and buyers are profiting by this condition of affairs to withhold their orders. It is particularly in the case of Merchant Iron Bars that low figures have been made, sales being reported at £4 16s. f.o.b. Antwerp. Dealers have made the effort to close for very large quantities with the rolling mills for deliveries over a series of months and even up to the end of the year at £4 16s. or £4 17s. Unfortunately, some of the mills have not had the prudence to repel the offers of buyers. Beams are beginning even now to feel the approach of the end of the building season. For the home market 125 francs, base, on cars at works is still being paid, but for export £4 4s. may be considered as the maximum. Plates are not in favor, and prices do not rise beyond £5 9s. for ½-inch and upward for Iron Plates, and £5 17s. for Basic Open Hearth Plates. The prices are 140 and 150 francs, respectively, for the home market. Orders are scarce in the Wire trade and prices do not leave any profit. No. 2 Iron Rods are worth 137.50 francs and No. 3 Iron Rods 140 to 142.50 francs, both for home market and for export.

There is still a good deal of work for the Wire Nail mills, but the necessity of another decline for the home market is obvious, as the result of the competition of the Esperance works, which is outside of the syndicate.

The Rail market is among the best, so far as the volume of orders is concerned. On 22,000 tons of Rails for Buenos Ayres, Cockerill, Ougree and Angleur have carried off the order at 103 francs, f.o.b. Antwerp, in spite of the competition of the American Steel works. So far as the construction shops are concerned they have received a nice order from the Belgian state. It calls for 178 locomotives of different types, 50 of them being compound.

New York.

NEW YORK, August 17, 1904.

Pig Iron.—The market has been rather quiet, but remains steady. Among the largest sales of Foundry Irons was one lot of 600 tons for a nearby New Jersey Foundry. A block of several thousand tons of Malleable Iron was taken by a Connecticut interest. We also note the sale of 2000 tons of Ferromanganese. We continue to quote for Northern brands: \$14.75 to \$15 for No. 1 Foundry, \$14 to \$14.50 for No. 2 Foundry, and \$13 to \$13.25 for Gray Forge. Tennessee and Alabama brands are \$13.25 to \$13.50 for No. 2 Foundry and \$12.75 to \$13.25 for No. 3 Foundry.

Steel Rails.—The only transaction of consequence recently made is the sale by a Northern mill of a lot of 6000 tons for the Missouri Pacific and 1000 tons for the Wabash, for prompt delivery, the Southern mill which had the old order not being in a position to make the deliveries on time. Low prices are being made for Light Rails. We quote: \$28 for Standard Rails and \$21 to \$23 for Light Rails, tidewater.

Cast Iron Pipe.—The better feeling reported last week has been further strengthened. Manufacturers report a little larger increase in the number of inquiries received and a further growth in the volume of business actually booked, but the current orders are not large and not many public lettings are being announced at present. A beginning is to be made at Coney Island in the installation of the high pressure fire service in this city, to which manufacturers have been looking in the expectation of considerable work to be given out. Proposals have been asked on 750 net tons of Pipe for this part of the work, the bids to be opened on August 31. Carload lots are quoted at \$25.50 per gross ton for 6 to 10 inch and \$25 for 12-inch, at tidewater, with concessions on large lots.

Finished Iron and Steel.—Only a moderate volume of business is reported in Structural Material. Scattered orders are being received for small lots of bridge work from railroad companies in different sections of the country. Some business of this character of somewhat more importance will probably come out in New England very shortly, but work in this line is not expected to reach any considerable proportions for the remainder of this year. Of course the contract for the South Side Elevated Railroad Company in Chicago is exceptional. The bids for this work are in, but the award has not yet been made. The local building trade shows no signs of improvement. The labor troubles have not been settled, but on the contrary appear to be growing worse. The demand for Plates, Bars and other Finished Iron and Steel is still quite light in this territory. Buyers are merely purchasing from hand to mouth, and no indications can be seen of an early improvement in the de-

mand. We quote at tidewater as follows: Beams, Channels, Angles and Zees, 1.74½c. to 2c.; Tees, 1.79½c. to 2c.; Bulb Angles and Deck Beams, 1.84½c. to 2.05c.; Sheared Plates in carload lots are 1.74½c. to 1.85c. for Tank, 1.84½c. to 2c. for Flange, 1.94½c. to 2.10c. for Marine and 1.94½c. to 2.50c. for Fire Box, according to specifications. Refined Bar Iron, 1.44½c. to 1.49½c.; Soft Steel Bars, 1.49½c.

Old Material.—The market has shown a little improvement. Dealers report somewhat better business from local foundries, as well as a slightly greater demand from Steel works, and even a little buying among the rolling mills. Sales of Old Steel Rails for rerolling have been considerably larger than during the immediately preceding weeks. Relaying Rails and Old Car Wheels are as stagnant as ever. Quotations per gross ton in New York and vicinity are approximately as follows:

Old Iron Rails.....	\$14.50 to \$15.00
Old Steel Rails, long lengths.....	12.50 to 13.00
Old Steel Rails, short pieces.....	10.50 to 11.00
Relaying Rails.....	16.00 to 17.00
Old Car Wheels.....	10.00 to 11.00
Old Iron Car Axles.....	15.50 to 16.00
Old Steel Car Axles.....	14.00 to 14.50
Heavy Melting Steel Scrap.....	10.50 to 11.00
No. 1 Railroad Wrought Scrap.....	12.50 to 13.00
Iron Track Scrap.....	11.00 to 11.50
Wrought Pipe.....	7.50 to 8.00
Ordinary Light Iron.....	4.50 to 5.00
Cast Borings.....	4.00 to 4.50
Wrought Turnings.....	6.00 to 6.50
No. 1 Machinery Cast.....	10.50 to 11.00
Stove Plate.....	8.00 to 8.50

Metal Market.

NEW YORK, August 17, 1904.

Pig Tin.—Despite the fact that the metal continued to arrive in large quantities and in the face of heavy shipments prices were advanced slightly above those quoted last week, both here and in London. At this writing spot is quoted here at 26.75c. to 27c., while August and September deliveries are quotable at 26.65c. to 26.85c. The London cables announce £121 10s. for spot and £122 5s. for futures. Business is still very dull here. The arrivals have now footed up to 2215 tons for the month, and it is predicted in the trade that they will reach 3500 tons before the end of the month. There are about 2114 tons afloat at present, according to New York Metal Exchange figures.

Copper.—While there is no quotable change, there are evidences of an endeavor on the part of producers and merchants to improve the tone. It is believed in the trade that large producers have sold fairly good sized quantities at shaded prices and are now about to hold their figures more rigidly. In the meantime ordinary business is still very quiet. Quotations at the close to-day were 12.50c. to 12.75c. for both Lake and Electrolytic and 12.25c. to 12.50c. for Casting Copper. The London market shows an advance to £57 2s. 6d. for spot, £57 3s. 9d. for futures and £60 15s. for Best Selected. The exports so far this month aggregate 10,541 tons. It is predicted that by the end of the month they will foot up to between 18,000 and 20,000 tons.

Pig Lead.—A quiet demand and unchanged prices characterize this market. The American Smelting & Refining Company quotes Desilverized in lots of 50 tons or more, shipment within 30 days, at 4.10c. Spot Lead from store, New York, is quoted at 4.15c. to 4.20c. St. Louis is a shade weaker at 4.00c. to 4.02½c. London cables are slightly higher at £11 16s. 3d.

Spelter.—Dullness continues to pervade the market for Spelter, but prices are steady at 4.85c. to 4.95c. for spot, with August deliveries at 4.80c. to 4.90c. St. Louis is unchanged at 4.75c. and London cables £22 10s.

Antimony.—Demand is light and the market is easier. Cookson's and Hallett's are quoted at 7c. and other grades at 6c.

Nickel.—The usual amount of business is passing and prices are steady, large lots being quoted at 40c. to 45c. and smaller quantities at 50c. to 60c.

Quicksilver.—The market is very quiet and weak. Flasks of 76½ lbs. were quoted to-day at \$42.50, with the prospect of lower prices at any time. London declined to £7 15s.

Tin Plate.—Nothing new has developed in the situation as regards Tin Plate. The market is rather quiet and shows some weakness. The recent reductions in price made by the leading producer have been followed by most of the independent mills. Comparatively little buying is being done, but the mills generally are busy on contracts previously placed. The American Sheet & Tin Plate Company is quoting \$3.30 per box, Pittsburgh, for 14 x 20, 100-lb. Coke Plates, making the price \$3.49, delivered in New York. The Welsh market has advanced 1½ pence, to 11 shillings 6 pence.

The Diamond State Steel Company, Wilmington, Del., has been placed in the hands of a receiver. The company has for some time been suffering from a lack of working capital, and the receivership was determined upon for the purpose of protecting all interests. It is

expected that the operations of the company's works will be continued by the receiver, as good orders are in hand which can be filled profitably.

Iron and Industrial Stocks.

The dominating influence in prices of iron and steel stocks the past week has been the uncertainty respecting the steel situation. The newsmongers have been actively spreading reports from day to day of disagreements among the steel makers, with the probability of serious cuts in prices of steel products, and as these reports have either been denied or repeated with stronger emphasis, prices have advanced or receded. Thus the stock market has been changing from weak to strong almost every day. The fluctuations have not been wide, the range in prices on the most active stocks having been as follows: United States Steel common 11½ to 12½, preferred 57½ to 60½; Tennessee Coal, 42½ to 45½; Republic preferred, 42½ to 44½; Colorado Fuel, 35½ to 37½; Can preferred, 41 to 43½. The announcement, however, on Wednesday morning of a heavy cut in wire products by the American Steel & Wire Company caused no recession in prices. Last quotations on active stocks up to 1.30 p. m. on Wednesday were as follows: Can preferred, 42; Car & Foundry common 19½, preferred 78½; Locomotive common 21½, preferred 89½; Colorado Fuel, 36½; Pressed Steel common 33¼, preferred 75; Railway Spring common 19½, preferred 76; Republic common 7½, preferred 42¼; Sloss-Sheffield common 37, preferred 85; Tennessee Coal, 44¼; United States Steel common 12, preferred 59, new 5's 78½.

Dunbar Furnace Company.—The shareholders of the Dunbar Furnace Company will vote September 7 on a proposed increase of the indebtedness from \$550,000 to \$1,000,000. The Company was incorporated in June, 1876, in Pennsylvania, and it owns two blast furnaces at Dunbar, Fayette County, Pa., their total annual capacity being 110,000 gross tons; also about 6000 acres of land and several coal mines. The authorized capital stock is \$1,000,000, all of one kind, of which \$886,700 is outstanding; par value of shares, \$50. Of the existing bonded debt, \$500,000 consists of 5 per cent. second mortgage bonds, of which \$98,000 is reserved to retire the \$128,000 prior liens; interest payable January 1 and July 1, principal due July 1, 1913, but subject to call at 105; secured by a mortgage to the Fidelity Trust Company of Philadelphia, as trustee. President, Walter C. Harris, Philadelphia; treasurer, Reginald Palmer, Dunbar, Pa.; secretary, Francis R. Crispen, Philadelphia. Office, Bullitt Building, Philadelphia.

The annual meeting of the stockholders of the Bethlehem Steel Company, called for last Friday at the company's general offices in Philadelphia, was postponed to a date as yet to be set.

Dividends.—The Barney & Smith Car Company, Dayton, Ohio, has declared the regular quarterly dividend of 2 per cent. on its preferred stock, payable September 1.

The Allegheny Heating Company, Pittsburgh, has declared the regular quarterly dividend of 4 per cent. and an extra dividend of 1 per cent., payable August 24. The Philadelphia Company owns 2664 shares of the 5000 shares of stock.

New Smelting Plant for an English Copper Company.

The Wellman-Seaver-Morgan Company, Cleveland, Ohio, has just received cablegram advices from its branch office in London, England, to the effect that it has been awarded a contract to manufacture and erect for the Fresno Copper Company, Limited, of England, what will be, when completed, one of the most complete copper smelting and refining plants ever constructed. The plant is to be located in Fresno County, Cal., and, at present, will consist of two large copper smelting furnaces with a complete equipment of hot blast stoves, blowing engines, Bessemer converting plant and stock handling equipment.

The contract was not awarded the Wellman-Seaver-Morgan Company on a basis of competitive prices, but entirely on the merit of that company's design. The whole layout is along the lines of the most modern engineering practice, and in many ways constitutes a decided departure from the ordinary copper smelting practice. It is expected to effect a very considerable saving in fuel, which is an important item in that part of the country, because of the scarcity of fuel, and also to effect a saving in labor cost on account of the improved facilities provided for handling the raw material.

The entire equipment making up this order will be

manufactured in every detail in the works of the Wellman-Seaver-Morgan Company, located in Cleveland and in Akron. The company is unique in the respect that it is able to build equipment in its own works covering every stage of the operation from taking the ore out of the mine to putting it into complete product. In spite of the depression in other lines, this company has been operating both its Cleveland and Akron plants at nearly their full capacity, and this present order will mean many months' more work at both plants.

Trade Publications.

Power Pumps and Hydraulic Machinery.—The Gould Mfg. Company, Seneca Falls, N. Y., has issued an attractive catalogue showing its line of triplex power pumps. The booklet is fully illustrated to show the various styles of pumps and their several uses. The line includes single acting triplex plunger pumps of several patterns and for a wide range of uses; double acting triplex piston pumps, also with extended variety of application; a portable mine pump, an electric mine sinking pump, rotary fire pump, the Gould double acting power working head, and vertical and horizontal centrifugal pumps. These machines contain the latest ideas in the Gould triplex pump.

Friction Clutches.—The Carlyle Johnson Machine Company, Hartford, Conn., has issued an attractive and interesting catalogue devoted to the Johnson friction clutch. There are excellent illustrations bringing out in section the mechanical operation of the chuck as well as giving exterior views of the device. A mechanical description accompanies the illustrations to make the reader's conception of the clutch a complete one.

Air Compressors.—The Ingersoll-Sergeant Drill Company, 26 Cortlandt street, New York, has issued an elaborate and handsome catalogue devoted to air compressors. The catalogue consists of the advance sheets of catalogue No. 36, and is unusual in its fine full page illustrations, under each of which is an intelligent synopsis of the machine shown. The frontispiece is a view of the company's works at Phillipsburg, N. J. Two views of the class A straight line compressors show the standard construction for the 30-inch stroke machine and the 18 to 24 inch stroke machine. Other machines shown are the steam driven compound compressor; the straight line belt driven compressor; the duplex Corliss compressor, girder frame, and also with semi-Tangye frame; the half duplex steam driven compressor; the duplex steam driven compressor, class G; duplex steam driven compound compressor; steam driven four-stage compressor; and various other steam and motor driven machines, including the largest Corliss compressor ever installed, that made by the Ingersoll-Sergeant Company for the Homestake Mining Company with steam cylinders 32 and 60 inches, air cylinders 53¼ and 82¼ inches, and 72 inch stroke. Of timely interest are the illustrations of the electric driven air compressors, 40 of which have just been installed by the St. Louis Transit Company of St. Louis, Mo., for a new system of storage air brakes. The catalogue contains a good deal of information regarding the use of compressed air, including important tables.

Hot Air Engines for Pumping and Dumping.—The Fanning Mfg. Company, Pratt, Morgan and Superior streets, Chicago, has published an interesting catalogue devoted to hot air engines for power and pumping. The catalogue is illustrated to show this engine designed for the combined purpose of power and pumping; equipped for deep well pumping; as a compressing engine for gas plants; and for use as a power engine only. The Fanning caloric engine, intended for use where small power, up to 1-12 horse-power, is required, is also shown.

The Newton Machine Tool Works, Incorporated, Philadelphia, has issued catalogue No. 38, which is devoted to the Newton slotting machines. These machines have been redesigned to conform with the requirements of the high speed tool steels. A number of the machines are illustrated, including sizes from 6-inch to 20-inch, a size to each 2 inches between these extreme sizes; slotter with variable speed motor; slotter with belt drive by motor; slotter with change gear drive; railway frog slotting machine; 25, 32, 40 and 50 inch slotting machines; 36, 48, 60, 84 and 96 inch portable slotting machines; 40-inch gear cutting machine; 16-inch traveling head slotting machine; an armor plate slotting machine, and others intended for special purposes.

Safety Hooks for Mine Cages.—The Wellman-Seaver-Morgan Company, Cleveland, Ohio, is distributing a booklet on safety hooks for hoisting cages in mines. Numerous half-tone illustrations show details of the complete device and the method of applying to a mine cage. A lucid description explains its action in operation.

Furnace No. 2 of the Pioneer Iron Company, at North Marquette, Mich., which resumed blast July 24, is making an unusual record, having averaged 137 gross tons a day thus far in August. This is considered an excellent showing for a charcoal furnace. Since the strikers were defeated and malcontents discharged better discipline and *esprit du corps* exist among the men than when the furnace was under union domination. Austin Farrell is superintendent.

HARDWARE.

MANUFACTURERS of such articles as are sold by Hardware dealers cannot look with indifference upon the catalogue house question. It is not a case in which they are absolutely free to pursue whatever course may seem to be most profitable or least troublesome. On the one hand, the orders given by catalogue houses may occasionally be very attractive, calling for large quantities, which are paid for in cash or carried on short time, not only diminishing the number of accounts to be kept, but perhaps enabling factories to be run on a much more regular and systematic programme, thus reducing operating costs. On the other hand, the risk is run of competing manufacturers making lower bids for catalogue house business and thus causing the unsuccessful bidders, who may have catered to such trade for a considerable period, to seek a market for their goods among regular Hardware dealers, with whom they would not only be in disfavor, but would lack the continued acquaintance necessary to secure satisfactory trade. They are further threatened with another danger. As catalogue houses grow in financial strength and in magnitude of operations they seek to make themselves independent in securing supplies of merchandise as well as to avoid the division of profits with manufacturers. Thus we find them even now advertising that they own or control factories making Stoves, Buggies, Guns, Sporting Goods, Paints, musical instruments, wall paper, furniture and clothing. They will certainly continue their progress along these lines as they find their trade expanding sufficiently to take the entire output of a factory. The manufacturers who now sell part of their product to such houses and look forward to an increase in the business of this character may have their own problem to face in time. They may be called upon to sacrifice their independence by becoming appendages to catalogue houses or to lose a trade which they had grown to consider permanent.

A correspondent points out the increasing ownership of factories by such houses as the most serious development in this troublesome question. Under such circumstances he does not see how any retail dealer can buy goods of a jobber and compete with the catalogue house. He says: "If the retail merchant could buy goods at jobbers' prices, he might be able to compete; otherwise, he cannot." Almost in answer to this comes a suggestion from a jobber who is exceptionally alive to the necessity of doing something for the benefit of the retail dealer. He says: "Take a competitive line of goods upon which catalogue houses quote unusually low prices. Let us concentrate the attention of jobbers and retailers upon these prices. Let the jobber insist upon his buyer using all his art to buy these lines at lower figures. Recommend to the retail dealer that he pursue the same policy in buying from jobbers' salesmen. Is it not reasonable to conclude that the result will be that this pressure from all sides will lead to this line of goods being sold at lower figures by the manufacturers? Now, if the manufacturers of this line sell a large part of their product through the jobbing and retail trade and a small part to catalogue houses, will it not occur to them that they will lose more profit in the concessions they find it necessary to make to the large part of their trade than they can gain by encouraging the sale of the goods to catalogue houses who buy the small part? Is it not reasonable to conclude that they will decide it will be

to their interest either to discontinue selling to catalogue houses or to regulate their selling prices?"

Our jobbing correspondent is undoubtedly correct in his statement that but a small part of such goods as are sold by Hardware dealers is handled at present by catalogue houses, notwithstanding their apparent policy of controlling the output of entire factories in some lines of merchandise. His suggestion would therefore seem to have practical value. Manufacturers have not hesitated, when dealing with jobbers, to regulate the price at which the latter should sell. On a large number of lines the jobber's selling prices are fixed, and if he cuts them he is told plainly that his rebates will be withheld and he will not be supplied with the goods. If the jobbing trade can be thus held in check, it would seem feasible for the manufacturers in many lines to devise measures to check the ruinous aggressions of the limited number of catalogue houses on the retail Hardware trade.

Condition of Trade.

Trade is still moderate and characterized by the same discrimination in ordering that has so long been a feature. Orders during the past week seem to have increased in frequency and volume, while manufacturers in some lines have increased their output and are employing more help. Competent observers believe that if labor troubles, always a great and serious question, do not materially interfere, business for the remainder of the year will be fair and satisfactory. The labor situation to-day, in New York for instance, the largest market for Hardware, is unfavorable, but the disputes are liable to adjust themselves at any time. The present commercial situation is grounded on sound, wholesome conditions, of which light stocks are an important consideration, and in no sense speculative. Again, prevailing conditions differ from those of previous periods in that depreciation and liquidation have mainly been confined to prices of securities having fictitious and inflated values unwarranted by facts, actual property and merchandise having been scarcely affected. Buyers have been, and continue to be, cautious in stocking up, while a good consumptive demand continues, thus compelling dealers to replenish stocks frequently, so that orders, while not large, are given oftener. The aggregate is less in volume and amount than that of either of the two preceding years, but those were banner times. Well informed manufacturers believe that with the close of the political campaign and announcement of definite results, there will be substantial renewed business activity. Southern trade reflects but little, if any, deterioration; that of the Middle West is less satisfactory than it has been, while the far Western States, especially those on the Pacific, are prosperous and likely to so continue. The recent Japanese naval victories will doubtless result in a resumption of oriental trade, portions of which have suffered temporarily in consequence of the successful raids of the Vladivostok squadron, while the supervision by Russia of Suez Canal traffic must necessarily divert much business to America, the largest and quickest of the sources of supply.

Chicago.

(By Telegraph.)

It is a noteworthy fact that while the heavy Iron and Steel Trade has been having its ups and downs—mostly downs—the Hardware business has moved along on an even keel at as high a speed as could be expected in an off year. This is due partially to the fact that prices have suffered but few changes and that more of the

changes that have taken place have been upward rather than downward. But the real cause is the prosperity of the agricultural West in the present, and the indications of still greater prosperity in the future. No merchant gets closer to the soil than does the Hardware man, and his bank account waxes or wanes on parallel lines with that of the farmer. Business is growing better and better with the near approach of the time when the farmers thresh and market their wheat and oats and harvest their corn. Manufacturers of Sad Irons met here a few days ago, their avowed purpose being to raise the price, but thus far the trade has received no official announcement of the result of their deliberations. Axes, Snow Shovels, Sleds, Stove Boards, Pipe, Elbows and similar fall lines are in good demand at prices which, for the most part, show a profit all along the line. While current orders for all fall and winter goods are none too large, they are so great in number and so widespread geographically that they offer every encouragement. Hardwaremen generally are being taught the wisdom of ordering in small lots and with great frequency as the best method of avoiding an overstock and its consequent embarrassment and loss. Trade in Builders' Hardware continues to improve, and prices, except in the cheaper competitive lines, are well maintained.

St. Louis.

NOVELL-SHAPLEIGH HARDWARE COMPANY.—The crowds attending the World's Fair are increasing. The "spending class" is now coming and the cheap lunch box is not so much in evidence. The down town theaters are open and the high-class *cafés* and restaurants are beginning to reap their harvest. The weather has been ideal—sometimes too cool for actual comfort. Several evenings this month overcoats and wraps have been worn. The stream of visiting Hardware merchants continues. They are now buying more goods. A number of new stocks are being sold.

Salesmen's vacations are now over; they are all at work and business is steadily increasing in volume, and August promises to be a very satisfactory month. We expect September to be one of the heaviest months in volume of business in the entire year.

We regret to note reports of rust in wheat in the Northwest. Conditions in the territory immediately tributary to this city continue to be most favorable. In parts of Texas and Mississippi there has been too much rain. Cotton is the money crop of the South. If present prospects are verified it means a heavy fall business from all the cotton growing States.

The coming election seems to have little effect upon business. From the best information we can get from visiting merchants and salesmen, we anticipate a very heavy late business. We believe business will be probably 30 days later than last year.

Manufacturers and jobbers are shipping promptly. With ordinary carefulness in buying there is no reason for jobbers or retailers to be short of goods, and our advice to our retail friends, now that fall business is opening, is to see that their lines of goods are complete. You can't make a profit on goods you are out of. Nothing is more expensive than to sell goods and then not be able to fill orders. The best advertising in the world is to be able to promptly deliver goods when they are called for. The worst advertisement is to talk about "the carload coming." One of the best methods for a retail dealer to use in competing with catalogue houses is to be ready to deliver the goods. One of the worst is to be out of them.

We remember the old saying, "Trust in God and keep your powder dry." A good motto for a Hardwareman, especially in a Presidential election year, is, "Trust in God and keep your assortment complete."

Cleveland.

THE W. BINGHAM COMPANY.—Trade and barter seem to be up to the average for this time of the year. Many salesmen are still on their vacations, quite a number taking in the St. Louis Fair, and from the reports we get from them they are still traveling down the "Pike," having a good time. July and August have gotten to be visiting months, and there are numerous excursions by

water, rail, auto and coach, and a lot of fellows have to go fishing. So, taking it on the whole, a great many people seem to be paying more attention to their outings than to business.

However, there is a steady, even trade coming to the Cleveland market by mail and through salesmen who are out soliciting business. There is a large demand for Galvanized and Black Sheets; large amounts of steel and iron Pipe and Fittings are being handled. In the general line of Hardware there is a small but steady trade. Stocks are light all over the country, but when trade starts with its usual vim—which we expect by September—there will be a good volume of business for all of us.

Farm products are bringing good prices. There is no lack of money, and we see no reason why we may not look forward to a large business in the fall. Dairy goods, such as Railroad and Factory Milk Cans, have had a very large sale this summer in this market, perhaps on account of the exceedingly low prices that prevail. The recent advance that the manufacturers were obliged to make on this class of goods was an incentive for many orders to be placed at once for fall use.

Cleveland jobbers are well supplied with Axes, their prices are very low, and there will be a large quantity sold this fall. Scythes have already advanced in price, and the trade would do well to buy of jobbers at their present prices and carry them over into next season. We believe they are good property to hold. Steady demand for Canal and Coal Shovels and Scoops shows that there is much digging going on in many sections of the country. There is considerable demand just now for made up Fruit Cans, Can Tops and Bottoms, Porcelain, Brass, Copper and Enameled Preserving Kettles for putting up fall fruits.

Collections are quite satisfactory for this time of the year.

Portland, Oregon.

CORBETT, FAILING & ROBERTSON.—Trade conditions throughout the Pacific Northwest show little or no change from those heretofore reported. We are now in the midst of wheat harvest, and returns, taken as a whole, must be said to be better than was expected.

Short rush orders incident to harvest have so far made up the bulk of business done. Advance sales of fall goods show up poorly as compared with past seasons, buyers generally preferring to wait and see what the demand is to be. It is a great handicap to business in every way that advance sales on season goods should take so much of the salesman's time, and that, too, at the expense of profit that would be made later if goods were taken into stock.

At this season collections are not expected to make a good showing, and this year is no exception in that respect.

St. Paul.

FARWELL, OZMUN, KIRK & Co.—We are able to report that the volume of business has kept up well, and also that prices have been generally well maintained. Of course, the interest here at this season centers in the condition of the crops. In our last report we stated that our wheat crop was in fine condition and that it had reached the critical stage in its growth. The wheat plant has its full share of dangers to meet, and this year it has found its greatest enemy in rust. This disease showed itself about the date of our letter, and it has been quite destructive and has extended over large territory. The loss entailed will be large and will be fully known only after threshing. It is larger in some sections than in other parts. Some territory is badly damaged, while other localities have largely escaped. In the same locality some fields are greatly hurt and adjoining fields may have little injury—all this owing to different conditions. For the past week the weather has been quite favorable, and if it continues so for the balance of August there will be millions of dollars added to the crop. At best the crop will be below that of the average of the last three or four years. The quality will also be lowered to some extent. But prices will be much higher and many farmers will be benefited, and some sections of

country will also be benefited, while on the whole there will be a considerable loss sustained.

Other crops are good and are very important. Our hay and grass crops are of more value than our entire wheat crop, and they have never been better. Oats and barley are excellent and they are now mainly harvested. Potatoes promise well, and Minnesota potatoes are not excelled and are raised largely for the country's markets. Corn is somewhat backward and may not make a full crop.

On the whole, the conditions at this writing are fully up to fair, and the prospects for the fall business are the same. It is now also probable that the poor streaks of country—the bane of the credit man's life—will not be larger than usual. Every year drought, frost and hail get in their destructive work somewhere. This year has been remarkably free from all of them, and if this continues till early September, the gain will be great and the conditions in the Northwest will be quite satisfactory.

Nashville.

GRAY & DUDLEY HARDWARE COMPANY.—The local Hardware jobbers are having a very satisfactory summer's business. While the volume of sales in some lines will probably show a slight falling off from last year, there has been a corresponding increase of others, and the result will probably be about the same. All the salesmen are now on the road, and we look for a splendid fall trade.

The crop reports continue to be very fine. The wheat in this section has all been harvested, and most of it has been sold and brought the desired price of \$1 per bushel to the farmers. The corn crop is looking excellent, and it is now assured, and there is hardly any chance of its being injured. In some sections of the South there has been a little too much rain for the cotton, but notwithstanding this the crop will be a tremendous one.

Prices are being well maintained, and everything indicates higher figures on Hardware products in the near future. Collections are better than they have been for some time.

Omaha.

LEE-GLASS-ANDRESEN HARDWARE COMPANY.—The wholesale trade of this region continues to enjoy a fairly satisfactory measure of activity, considering that this is a midsummer month. No noteworthy features have developed to mark any material changes from previous reports. Advices from traveling salesmen and reports from visiting merchants all tend to substantiate the statement that the country tributary is in a continued prosperous condition, and as long as the present conditions remain little fear need be entertained of any adverse changes. The warm weather of the past few days has helped the situation materially, as hot days and nights are just what the corn crop needs at this particular time in its growth. With favorable weather for the remainder of the season the yield of corn in this section of the country will be something phenomenal, unless expert judges are badly mistaken. Farmers are obtaining substantial values for all their productions, consequently money is plentiful, and business men are looking forward with confidence to a very active period in all departments.

NOTES ON PRICES.

Wire Nails.—Under date of August 16 the American Steel & Wire Company announced a heavy reduction in the prices of Wire and Wire products, to take effect at once. Base prices to jobbers in carload lots, f.o.b. Pittsburgh, are as follows: Annealed Smooth Fence Wire, \$1.45; Wire Nails, \$1.60; Painted Barb Wire, \$1.75 per 100 pounds. This is a reduction on the official quotations which have been in force of 35 cents per 100 pounds on Smooth Fence Wire, 30 cents on Nails, and 45 cents on Barb Wire; while the reduction on recent actual selling prices is 10 cents less than the foregoing. It will be noticed that the differentials have also been changed, there now being a greater difference between the base prices of Smooth Wire and Nails and a smaller difference between those of Nails and Barb Wire than

formerly. While the announcement of the change in prices contained no reference to the cause of the reduction, lack of business and sharp competition may be accepted as reflecting the views of the company on the subject. Quotations are as follows, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

Jobbers, carload lots.....	\$1.60
Retailers, carload lots.....	1.65
Retailers, less than carload lots.....	1.75

New York.—The demand has been somewhat affected by the threatened strike, especially for small lots from store. As a rule, dealers are carrying light stocks. Quotations, which have been made to conform to reduced mill prices, are as follows: Single carloads, \$1.79½; small lots from store, \$1.85 to \$1.90.

Chicago, by Telegraph.—Important independent interests came out into the open with prices 10 cents under the former so-called official figures of the leading producer. The latter interest has now announced a reduction from former official prices. Quotations are as follows, f.o.b. Chicago: Jobbers, carload lots, \$1.75; retailers, car lots, \$1.80; retailers, less than car lots, \$2. Coated Nails are quoted at \$1.60 to \$1.65 per keg to dealers or large consumers, delivered, Chicago.

Pittsburgh.—The demand has shown considerable improvement and jobbers are placing business for the fall. The local independent is now running about full, and shipping a large proportion of the current output. New quotations by the American Steel & Wire Company are as follows: In carload and larger lots to jobbers, \$1.60; carload lots to retailers, \$1.65; less than carload lots to jobbers, \$1.65; less than carload lots to retailers, \$1.75.

Cut Nails.—Conditions which have been ruling in the Wire Nail market are having an effect on the price of Cut Nails, the official quotation being generally shaded 5 cents in carload lots, while for very large orders a further reduction in price could probably be obtained, especially in view of the new prices on Wire Nails. Official quotations are as follows for Steel and Iron Nails, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

	Base.
Jobbers, carload lots.....	\$1.75
Jobbers, less than carloads.....	1.80
Retailers, less than carloads.....	1.90

New York.—Business is comparatively light in consequence of trouble in the building trades. Up to the present week demand for small lots from store has been very satisfactory. Owing to irregularities in prices at mills, changes in quotations for the local market are as follows: Carloads on dock, \$1.70 to \$1.75; less than carloads on dock, \$1.80; small lots from store, \$1.85.

Chicago, by Telegraph.—Nothing new has developed in the Cut Nail situation here. Prices continue to range from \$1.80 to \$1.85, Chicago, in car lots, with 5 cents advance for smaller lots.

Pittsburgh.—The official price of \$1.75 to jobbers in carload lots is being generally shaded by 5 cents, while on lots of 500 kegs or more it is likely that 10 cents under the official price could be done. Iron Cut Nails are scarcely any stiffer than Steel Cut.

Barb Wire.—Some improvement in demand has been noticed during the week. The reduced prices announced by the American Steel & Wire Company, on August 16, result in the following quotations, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

	Painted.	Galv.
Jobbers, carload lots.....	\$1.75	\$2.05
Retailers, carload lots.....	1.80	2.10
Retailers, less than carload lots.....	1.90	2.20

Chicago, by Telegraph.—Quotations resulting from the reduction in prices by the American Steel & Wire Company are as follows: Car lots to jobbers, Painted Wire, \$1.90; Galvanized, \$2.20. To retailers, car lots, Painted, \$1.95; Galvanized, \$2.25. Retailers less than car lots, Painted, \$2.05; Galvanized, \$2.35.

Pittsburgh.—The demand has shown some improvement in the past week. Reduced quotations by the American Steel & Wire Company are as follows, f.o.b. Pittsburgh, 60 days, or 2 per cent. for cash in 10 days:

	Painted.	Galv.
Jobbers, carloads	\$1.75	\$2.05
Retailers, carloads	1.80	2.10
Less than carloads	1.90	2.20

Smooth Fence Wire.—Demand shows a slight improvement. Quotations, which have resulted from the prices announced August 16 by the American Steel & Wire Company are as follows, f.o.b. Pittsburgh, 60 days, or 2 per cent. discount for cash in 10 days:

Jobbers, carloads	\$1.45
Retailers, carloads	1.50
Less than carloads	1.60

The above prices are for base numbers, 6 to 9. The other numbers of Plain and Galvanized Wire take the usual advances, as follows:

	6 to 9	10	11	12	12½	13	14	15	16
Annealed.....Base.	\$0.05	.10	.15	.25	.35	.45	.55		
Galvanized....	\$0.30	.35	.40	.45	.55	.65	1.05	1.15	

Chicago, by Telegraph.—Revised prices announced by the American Steel and Wire Company result in the following quotations, f.o.b. Chicago: Smooth Fence Wire, Nos. 6 to 9, \$1.60 per 100 pounds, in carload lots to jobbers; \$1.65 per 100 pounds to retailers, and \$1.75 in less than car lots.

Pittsburgh.—Demand has slightly improved. Official quotations announced by the American Steel and Wire Company are as follows, f.o.b. Pittsburgh, terms 60 days, or 2 per cent. discount for cash in 10 days: Plain Wire, \$1.45, base, for Nos. 6 to 9, in carloads to jobbers, and \$1.60 in small lots to retailers. Galvanized, 30 cents extra for Nos. 6 to 14.

Sledges and Hammers.—The recent association agreements on Heavy Hammers and Sledges have lapsed. Leading makes are now quoted at 80, 10, 10 and 10 per cent. discount on such items as were 80, 10, and 5 per cent. discount in April last, and 80, 10 and 10 on other items formerly 80 and 5 per cent. discount.

Rope.—The volume of business covering immediate shipments does not show much increase. Some orders for September shipment are being booked by manufacturers, but as a rule buyers are not purchasing in anticipation of future requirements. This limited buying for shipment next month is looked upon as indicating a probable increase in business during the fall. The market appears to be firm in the face of light demand and a somewhat weak fiber market. Quotations on the basis of 7-16-inch diameter and larger are about as follows: Pure Manila, 11½ cents per pound; other grades of Manila, 10¼ to 11 cents, according to quality; pure Sisal, 9 cents; mixed Sisal, 7½ cents.

Glass.—The proposed meeting of the window glass manufacturers which was scheduled to be held at Cleveland, Ohio, on August 17, has been postponed, and while no date for holding the meeting has been decided upon, the opinion prevails that the last of the month will be selected. In the announcement postponing the meeting the statement is made that the committee on permanent organization has not secured all of the signatures as yet necessary to make the organization complete. If the manufacturers' plan should prove a failure, the outlook for a prosperous fire would be anything but encouraging. Glass stocks in manufacturers' hands are so much depleted that it is hard to obtain anything like full assortments of sizes. Quotations of 90 and 7½ per cent. discount for carload lots from manufacturers' list of January 1, 1901, appear to be quite general. In some instances this quotation is accompanied by the requirement that orders must contain at least 40 per cent. of single glass in the first three brackets, and that the entire order must be well assorted. Local demand is very light.

Oils.—**Linseed Oil.**—Advances in the price of Seed, followed by declines, during the week under review resulted in like fluctuations in the price of Oil, which has, however, settled back to the quotations of last week. Conditions, to which the changeable market is attributed, are such that a slightly weak undertone is perceptible in the market, especially in State and Western Oil, which could probably be purchased in large lots at a shade under regularly quoted prices. Quotations are as follows: City Raw, in lots of five barrels or more, 45 cents per gallon; in lots of less than five barrels, 46 cents per gallon;

State and Western Raw, 43 to 44 cents per gallon. Boiled Oil, the usual 2 cents advance per gallon over Raw.

Spirits Turpentine.—The accumulation of oil barrels has been reduced to such an extent that sellers are now asking the former ½-cent difference between machine made and oil barrels. Local prices during the week have advanced ¼ cent as a result of a similar advance in the Savannah market, caused by the requirements of August contracts and smaller receipts, on account of heavy rains. Quotations in this city, according to quantity, are as follows: Oil barrels, 56½ to 57 cents; machine made barrels, 57 to 57½ cents per gallon.

PRICE-LISTS, CIRCULARS, &c.

NEW CASTLE STAMPING COMPANY, New Castle, Pa.: Catalogue No. 3, devoted to New Castle Enameled Ware, annulling all former lists. The company has increased its factory capacity and has added a number of salable articles to its line. Its "case lot" system, lately adopted, insures more promptness in shipment and greater safety in transportation.

THE CLYDE CUTLERY COMPANY, Clyde, Ohio, export office, 7-9 Warren street, New York, in charge of U. J. Ulery: Catalogue No. 11, illustrating Butcher, Steak, Boning, Sticking, Skinning, Ribbing and Fish Knives; Slicing, Bread, Chicken, Household, Sailors', Paper Hangers', Tobacco, Kitchen and Beet Topping Knives, Corn Hooks and Pruning Shears. The Knives are warranted to be free from defects and to be sharp when leaving the factory.

BUTLER BROTHERS, 491-497 Broadway, New York: Illustrated pages of articles at special prices, which will remain good only until August 31.

THE GONG BELL MFG. COMPANY, East Hampton, Conn.: Two illustrated catalogues; one relating to the line of Gong Door Bells, Trip Gong Bells, Hand, Call and Tea Bells. The other catalogue is devoted to the company's full line of Bell Toys.

STOWELL MFG. & FOUNDRY COMPANY, South Milwaukee, Wis.: Pen Wiper which reminds its recipient that one of the lines of product of the company is Stowell Hay Tools.

TRADE WITH SOUTH AFRICA.

PROOF that South Africa is well on the road toward complete recovery from the ravages of the Boer War is contained in the report of the Controller of Customs of South Africa, which shows that more goods were imported in 1903 than in 1898, the year before the beginning of hostilities. Still greater improvement is looked for because of the promise of better general conditions throughout that region. From the American point of view these statements make very pleasant reading, for the American export trade with South Africa showed very much greater relative increase than that of Great Britain. The American increase from 1902 to 1903 was an even 40 per cent., as compared with 6 per cent. for Great Britain. Of course the English figures are much the larger, being \$146,230,000 for 1902 and \$155,280,000 for 1903, as compared with the United States exports of \$22,150,000 for 1902 and \$31,050,000 for 1903. To make the British showing even worse, the South African imports from British possessions fell off so that the total for the Empire was about \$1,000,000 less in 1903 than in the preceding year. These figures would indicate that trade has been diverted to a very material extent from the British Empire to the United States. Such success should be a spur to even stronger effort on the part of American manufacturers to enter the great field of consumption that South Africa now presents, and which must grow to vastly greater proportions during the next decade.

THE SCHATT & MORGAN CUTLERY COMPANY, Titusville, Pa., has lately added 35 new patterns of Pocket Knives to its extensive assortment. As indicating the very high class of products which the company is in a position to make, an order was recently taken for a quantity of Pocket Knives valued at \$225 a dozen.

THE CATALOGUE HOUSE QUESTION.

VIEWS OF A MAIL ORDER HOUSE.

The following letter from a well-known catalogue house will be of interest as reflecting the way in which the question looks to one of the houses whose methods in the sale of merchandise have aroused so much discussion and criticism in the trade:

Of course, our views may be biased, but we cannot help but think that the retailer is making a big bugaboo out of a little molehill, and that if the manufacturers and jobbers who are importuned by retailers' associations not to sell catalogue houses would start a little campaign of education among the dealers there would be less trouble made.

In the first place, we claim that the retailer who works one-half as hard as the catalogue house man works has absolutely nothing to fear from the mail order houses. It is the dealer who sits around and goes to seed who makes the biggest howl, because a more stirring man is getting his trade.

But that is only the smallest end of the situation. For the sake of argument, grant that the two leading catalogue houses do a business amounting to \$50,000,000 between them. This trade goes to every State in the Union. Now, if one will just stop to think what the enormous total of the retail trade is in all these States that these two houses do not get, one can grasp what a pitifully small percentage the retailers are fighting.

It must be remembered, too, that this total of \$50,000,000 is divided among over 40 different lines of merchandise. The retailer of Implements and the retailer of Hardware are the ones making the hardest fight against the catalogue houses. The total trade of both of these houses in these two lines is only a fraction of the total retail trade in the two lines in any important Western State. How much figure does it cut when you consider all the States and Territories in the Union?

The retailer who confesses that this small percentage puts him out of business confesses that he is not fitted for the business, and that it is time he sought some other field of endeavor.

Furthermore it has been our observation that any concerted work by dealers to injure catalogue houses brings about two results. One is that it only advertises the mail order house more than ever. The other is that the big mail order house retaliates by making lower prices, and really demoralizes the trade worse than ever. As an instance of this latter, we have but to mention the Wind Mill situation of a year or two ago. By persistent agitation the dealers' associations succeeded in getting the Wind Mill manufacturers to refuse to sell mail order houses. Of course, there was one broke over, and a Chicago house landed there, and for weeks and months Wind Mills were being advertised on page after page of farm papers, in great, flaring type and full page illustrations, at prices so near dealer's cost that the dealer's trade in Wind Mills must certainly have been much more injured than if he had left the situation alone in the first place.

I do not say that the catalogue house in question did this as retaliation. It was done as a matter of business, and many thousand more Wind Mills were sold than would have been the case had the company been able to buy in the open market. It is our understanding that this house now owns a Wind Mill factory, and prices have not yet gone back to where they were before the fight was made by the retailers.

Of course, the retailer can claim that if these houses do so much business others can start up, and the first thing we know all business will be done through mail order houses. But in the past ten years probably 500 mail order houses have started up and dropped by the wayside. It takes the closest kind of application, years of the hardest kind of work and an infinite capacity to stick to it to make a mail order business successful, and very few who start up ever make a ripple on the surface of retail

trade. We maintain that the same kind of application, hard work and energy will build up a retail business which has nothing whatever to fear from the mail order house, and if the retail dealer cannot supply these requisites he drops out for lack of them, and not because some mail order house has taken his trade.

And we really believe that if every jobber and manufacturer would go at the retailer along these lines, the dealer would soon awake to the fact that he was fighting an imaginary evil, and that his time and energy would be better spent in building up his own business.

THE OLD AND THE NEW.

From a Representative Merchant in Michigan: Every now and then some more or less learned and renowned person mounts the pedestal of publicity to tell the rest of the world what a bad, worthless, degenerate lot we are, and how we are fast running our race to the extinction of morals, manners and learning; how, in short, the good old days are all past when men were larger, longer lived, healthier and happier, and the women were all beautiful and virtuous; when apples were finer and redder and cherries always abundant, and snowy weather was always seasonable in winter, and in summer all the days were May days, and everybody was so good that all were sure to go straight to heaven when they left off here.

What Is the Illusion About the Past

that makes it so alluring? "Past and to come seem best; things present, worst," was an old saying hundreds of years ago, but it is about time that we were outgrowing this unworthy habit.

The future is the imagination of the mind; the past is its romance, but the present is its sane intelligence. It is well enough to revere the past for what was good in it, but to denounce the present, just because it is new and right about us, is not wise or tolerant.

And so it is with business. We hear of the good old days when merchants went to market twice a year, sold their goods always at a good profit, retired while still enjoying good health and died leaving their families in comfortable circumstances. They never heard of catalogue houses, department stores, mortgage and bankrupt sales, fire sales, special sales, rural free delivery routes, nor any of the nightmares of a 1904 business man's life.

Times Have Changed.

To-day is the time of averages. Business is done on closer margins, but there is more of it.

To read our trade papers and the letters from retailers you might think that trade is all "going to the dogs," or to the catalogue houses. I'll admit that the merchants of to-day do have "troubles of their own," but they might be worse. The retailer of the present must wake up to the fact that the world moves. Business methods of 50 years ago will not answer to-day. We must hustle.

With the advent of rural free delivery, the farmer does not come to town so often as formerly. If he does not come to you then you must go to him.

Yes, we must work up business. *The Iron Age* has done much to help the cause of the retailer, but it will be doing more if it succeeds in its efforts to get the Hardware merchants to go after business.

Last year we put a man on the road about December 1. He covered our territory thoroughly. He was supplied with a Sewing Machine wagon, carrying a sample Machine with him. He also sold Wire Fencing, and all and any other goods we carry in stock. He found out who was going to build, paint or repair, and what they might need this year. He called at every house, wrote the result in his book, and reported at the store, where his reports were copied. We believe it paid both in goods sold and advertising done, and we propose to keep it up.

We Are Not Discouraged,

but look forward to a bright future for the retail Hardware dealer of the United States. *The Iron Age* band

wagon is in running trim; the jobbers are getting on board, and the manufacturers will soon be asking for a seat.

Most of us—there might be one or two exceptions—are right glad that we were born in this age, and if we are given to boasting of our might, and glory, and business, there never was a time more worthy of our praises.

UP TO THE MANUFACTURER

From a Large Retail House in Pennsylvania: The retailer who is alive to the situation needs no additional evidence to convince him that drastic measures should be taken for his relief. Will he leave it to the jobber to devise a plan? In a circular letter received from a jobber such remedial suggestions as these are offered: "Keep a larger and better assortment of goods, display them in a more attractive manner," &c. Such advice, if advice, certainly neither assists nor deceives the same retailer.

It rests with the manufacturer alone to rescue the retailer, and by so doing make his own position secure beyond question, enabling him to keep in close touch with the consuming power, thereby affording a positive producing basis and placing within his control to a much greater degree the price schedule.

How can the retailer ever hope to compete with a competitor who is on a jobbing basis? Eliminate the jobber, which could be done in many cases without any detriment to business expediency. Give the retailer the advantage of the jobber's preferential; then will he be in a position to successfully cope with the catalogue house question.

THE IRON AGE DIGEST OF CATALOGUE HOUSE PRICES.

From an Indiana Merchant: We think the catalogue house quotations, as given in your issues July 14 and 28, are a very serious menace to our business. In a certain sense they are the "pace setters" in prices on standard brands of goods. Our patrons are well posted on prices of Hardware, as they all have those great encyclopedias from the catalogue house. If you question their having these catalogues just ask the rural mail carrier how many of these catalogues he has delivered within the last year, and for another eye opener ask him how many and the amounts of post office orders he has sold for these houses within the same time, and then you will begin to realize the enormity of their business the country over.

This catalogue to the average farmer and mechanic is a key to our cost mark. Noon hours and rainy days they will get down this wonderful book and go through our stock. Now, you see we are up against the real thing, and to preserve our solidity and ride on the tide of prosperity we must fight our own battles on our own store floors. We must be up to date and keep posted on all new goods. We must know where to get the goods our customer may want that are not in regular Hardware catalogues.

Avoid buying goods of well-known brands that are in these objectionable catalogues, for just as long as we buy goods that are catalogued we encourage the manufacturer to sell the catalogue houses. Let 10,000 retail Hardware merchants do this thing for one year, and we will have the manufacturers and the jobbers ready to enlist in a fight with us that is bound to win.

In the meantime we must treat our customers with courtesy and meet the price willingly. Most of our customers prefer to buy at home when they can buy as cheaply as of the catalogue house. We must do better advertising—that is one of our weak points; it takes time and thought to write a good advertisement.

The strong hold the catalogue houses have on the people is their descriptive and glaring advertisements. We must plan our business and carry it out with a system, keep up our dues with our Hardware associations, be of assistance to one another when possible, and success will come our way.

From a Large House in Kentucky: We believe that the prices you mention as being quoted by catalogue houses would not only be very troublesome for the retailer, but would in almost every instance put him out of business, as there are a great many prices quoted there lower than he could possibly buy at.

Of course there are some people that would trade with their Hardwareman in preference to any price made by any catalogue house, but these people are not in the majority. They are simply the very few that hold home trade as one of their strict rules in moral life. They believe they owe what support they can give to their home merchant, and are willing to pay him much more for his goods than they can buy out of their town; but, as we stated above, these people are hard to find and are not numerous enough to support the Hardware retailer.

Before the day of catalogue houses it was a very easy matter for a retailer of Hardware to make a nice, comfortable living with the use of a small amount of advertising and a very slight brain effort, but now his customers can sit down at home and buy in Chicago their requirements without leaving their own fireside on disagreeable days or the slightest fear of their Hardwareman (who carries them a long time) finding it out. It is often the case that the Hardwareman will practically support or carry a number of his farmer customers from year to year, while their ready cash is being consumed by catalogue houses, and the Hardwareman is compelled to reduce his prices very greatly in order to sell these people, and wait on them for months before he receives any cash for his goods and labor, which also adds very greatly to his expenses.

These figures are certainly very detrimental to the Hardware people in general, and we believe that a strong effort should be made to correct the evil.

We cannot see how the manufacturer can withhold himself from the legitimate Hardware trade when the jobber and retailer go to him with the plea that he is wholly and solely to blame for this great burden that is now upon both jobber and retailer, even if it should put a few dollars in his pocket to handle the catalogue business. He must see he is simply murdering the Hardware trade of the country, as no retailer can find enough money in the business to justify him to put the proper effort into it.

IMPOSTORS IN THE HARDWARE TRADE.

FOLLOWING close on the operations of impostors in Pennsylvania and New England, as referred to in recent issues, our attention has been called to one who has just been arrested in New York City, charged with obtaining goods under false pretences. This man, representing himself as connected with the Columbian Hardware Mfg. Company, a name adopted because of its similarity to the Columbian Hardware Company, 14 Warren street, ordered small quantities of goods from a number of down town firms, including Allerton-Clarke Company, E. C. Atkins & Co., C. E. Jennings & Co., Topping Bros., and others, the goods to be sent to 243 Broadway, which is in the neighborhood of Warren street. The party had no quarters in the building, but his plan was to intercept the goods on the sidewalk or at the entrance to the building. His operations covered a period of two or three months, but his nefarious campaign was brought to a close on the 4th inst., when he was held in \$1000 bail to answer. It is believed that two or three years ago he was implicated in similar transactions in Connecticut and Pennsylvania.

Hackett-Walther-Gates Hardware Company, St. Paul, Minn., advise us that a few days since a draft was presented to them, drawn through an Eastern Hardware house, by a man calling himself F. R. Hackett and representing himself as connected with the St. Paul house. He possessed cards bearing that imprint. This man has no connection whatever with the company, who caution friends and customers to be on the alert for a visitor palming himself off as above.

THOMAS O'BRIEN, formerly with the Crawford Bicycle Company, and also for many years one of the traveling force of Schoverling, Daly & Gales, will represent the Hopkins & Allen Arms Company, Norwich, Conn., on the road. His many friends will, no doubt, be pleased to learn that he is again in the Fire Arms line.

Michigan Retail Hardware Dealers' Association.

CONCLUDING REPORT.

As stated in our telegraphic report last week, the tenth annual convention of the Michigan Retail Hardware Dealers' Association, held at Grand Rapids on the 10th and 11th inst., was larger in point of attendance than any previous convention of that organization.

During the convention letters and telegrams of congratulation were read from the following: M. L. Corey, national secretary, Argos, Ind.; H. L. McNamara, president of the Wisconsin Association, Janesville, Wis.; A. R. Sale, secretary of the Iowa State Association, Mason City, Iowa; Jno. F. Baker, president Ohio Association, Dayton, Ohio; C. S. Johnson, vice-president Ohio Association, Barberton, Ohio; Sharon E. Jones, treasurer National Association, Richmond, Ind.; E. L. Bush, president Indiana Association, Evansville, Ind., and F. A. Bare, secretary Ohio Association, Mansfield, Ohio.

WEDNESDAY AFTERNOON SESSION.

The address of welcome by Edwin F. Sweet, Mayor of Grand Rapids, was eloquent and cordial and was received with vigorous applause, as was also the president's brief response.

A. Harshaw of Dalray, chairman of the Committee on Credentials, when called upon for a report, stated that it had not been necessary to call upon delegates for credentials, as their position as retail Hardware dealers in the State was already well known.

Henry C. Weber of Detroit, treasurer of the association, made a report of which the following is a summary:

Amount on hand at the last convention.....	\$306.78
Amount received from then to date.....	714.00
Total.....	\$1,020.78
Expended since the last convention.....	841.30
Balance on hand.....	\$179.48

This report was at his request placed in the hands of an Auditing Committee consisting of the following members, who were appointed by the president: J. H. Whitney, Merrill; J. B. Sperry, Port Huron; J. G. Patterson, Detroit.

The annual report of Secretary A. J. Scott of Marine City showed a flourishing condition of affairs and gave prospects of continued growth. The report was published in our last issue.

J. H. Whitney of Merrill read a paper entitled "The Retail Merchant as an Educator," which was printed last week.

Hon. C. L. Glasgow of Nashville, a member of the Michigan State Senate and a Hardware dealer, prefaced his address on "Our Social Relations" by expressing regret that he had delayed becoming a member of the association until the present year. The address was delivered extemporaneously and was received with marked enthusiasm. Mr. Glasgow's address appeared in our last issue.

At this juncture W. P. Bogardus, president of the National Association, was escorted into the room by Secretary Peck of the Wisconsin Association and President Stebbins of the Minnesota Association, amid applause.

A. F. Sheldon, president of the Sheldon School of Scientific Salesmanship, Chicago, delivered an address on the subject of reducing the sales of goods for profit to a science.

Invitation from Local Jobbers and Manufacturers.

A communication was read from the jobbers and manufacturers of Grand Rapids, inviting members of the association to participate in an extended trolley ride through the show points of the city on Thursday afternoon, the ride to terminate at the Lakeside Club, where a banquet would be served in the evening.

The entertainment of the delegates during their stay in Grand Rapids was in the hands of the following local committee: C. M. Alden, reception; W. C. Hopson, finance, and Sidney F. Stevens, banquet.

THURSDAY MORNING SESSION.

After the session was called to order at ten o'clock Thursday morning A. K. Edwards of Kalamazoo was called upon for his paper on "Capital and Credit, Their Use and Abuse in Our Daily Business." The paper was in part as follows:

Capital and Credit—Their Use and Abuse in Our Daily Business.

Many of the troubles which we have are of our own making through our overanxiety to increase sales, too often at the expense of those of our competitors, by taking chances of making collections beyond those which common prudence would dictate, and in attempting to cover too much ground by competing in price with the catalogue house, and in time with the installment dealer. We are in doing this practically burning our candles at both ends. We must either choose one or the other method, or adopt a system that will allow us to do business upon both. In our business we have been quite successful in meeting cash prices with cash prices and installment prices with installment prices. At first we feared it might be the cause of much annoyance and many



A. K. EDWARDS.

difficulties, and it probably has been, but the annoyance and difficulties have been so greatly overbalanced by the advantages gained that we have increased the line of goods upon which we are naming special prices for cash, and I firmly believe that this increase will continue until much of the line is so covered by us. We have already applied it to Stoves, Ranges and Refrigerators.

BORROWED MONEY NOT CAPITAL.

Capital and credit are the two vital items in our business life. Our capital and our credit, as well as our customers' capital and our customers' credit, are linked and interlinked in such manner as to make it difficult to separate them. Our capital is money of our own which we have invested in business. If we borrow money to increase our capital it is then not capital but credit which we have added. We may increase in this manner our credit to a small extent by deceiving our creditors with the idea that our capital is the sum of both our capital and our credit, but the advantage gained is only temporary, as the modern methods of commercial reporting are almost sure to locate, approximately at least, the amount of our capital and fix our credit unbeknown to us, and after we imagine that our inflated report has been taken as an actual fact. The larger and more prosperous a business is the nearer to the actual facts are the commercial agencies able to secure correct information from the managers of such business interests.

MAKE FRANK FINANCIAL STATEMENTS.

Therefore, when replying to inquiries, either from our creditors or from the commercial agencies representing them, it behooves us to be frank and honest, as such a statement will certainly increase our credit to the fullest extent possible with good business judgment, even if it does not inflate

our capital, while an attempt to deceive will tend to arouse a suspicion that we are worse off than we are in reality, and the report will likewise be so colored.

OUR CUSTOMERS' CREDIT.

Nearly as important a matter to us as our own credit is the knowledge of our customers' credit. The man who relies upon the fact that he is a well to do farmer, a well paid mechanic or a prosperous professional man to obtain unlimited credit—and by unlimited credit I mean credit without a positive time stated for payment and not unlimited as to the amount—and who feels insulted or at least injured when pressed for payment is a good customer for our competitor to have. Regarding this oversensitiveness upon the part of the debtor community, there appears to be a growing sentiment that it is no longer a personal insult to be asked to settle an account that is due or past due, nor to have a pay day named when the account is made.

POSITIVE DATE OF PAYMENT.

In our business we have endeavored to arrange each and every credit with a positive pay day. We have tried to instill into the minds of our customers and employees that the only means we have of maintaining our credit is to meet our obligations promptly, and the only way in which we can do that is to realize promptly from our sales; that while our purchases aggregate hundreds or even thousands of dollars where theirs are only dollars or tens of dollars, our creditors do not consider it obligatory to notify us that the account has matured, but make sight drafts which must be honored, or time drafts with invoices which must be accepted. We have endeavored to convince our debtors that there was nothing so valuable to a business man, whether that man was engaged in the farming or mercantile business, as his credit; nothing of which we were so jealous as our own, and that there was no way so sure of building it up and maintaining it as by sacredly meeting obligations made. Education has much to do with this, and we feel that we are much indebted to our enemy, the catalogue house, for educating the masses to the fact that cash transactions are not only desirable, but necessary in conducting successful business operations. To the customer who asks for an accommodation until after wool shearing, after haying, after harvest or after hog killing, we ask when he is going to shear his sheep, mow his hay, harvest his grain or kill his hogs, and base our reply to his request upon such positive data. If we consider the customer responsible and the time asked is in excess of the time that we feel that we can safely grant, we so state, explaining our reasons, then offer the credit upon cash terms upon his giving his note bearing interest until such date. If we do not consider him responsible we decline the account and allow another dealer, if he can find one, to take the chance. We keep in mind two facts which we learned years ago from men older in business than ourselves: One is that we owe no man an apology for requesting a settlement of an account which is due, and the other that if a man is to take offense upon having plain business facts frankly stated to him, we prefer to have him take such offense before rather than after he has an account with us.

CUSTOMERS' NOTES.

If we take a customer's note, and he is a man who keeps a bank account, we have this note made payable at such bank, otherwise at our office. If the note is not discounted we see to it that he is notified some days in advance of the date that it becomes due, that he may have no excuse for neglecting it. If discounted we leave this for the bank. We do not hesitate to say "No" to the customer who wants credit and whom we either do not know or know is irresponsible or careless in meeting his obligations. If he is a stranger we ask for and investigate his references before granting the accommodation. If he has had credit with us we refer to our books before again extending it, if there is a doubt as to his responsibility. If such reference shows the time taken was longer than agreed upon we do not hesitate to call his attention to the fact, and if his excuse is not satisfactory we tell him so and decline to accept promises no better than the ones he previously failed to keep. We do not accept as an excuse for nonpayment the one so generally offered, that we can charge interest, remembering that we are not bankers, have not the capital to be bankers and are under too much expense for the capital we have to make it profitable to do a banking business.

We unhesitatingly decline credit to the man who always finds cash to purchase liquor, but who wants credit with us. We advise him to first buy for cash his necessities, then get credit for his luxuries.

THREATS THAT DO NOT TERRIFY.

We do not hesitate to refuse credit to a man for fear that he will injure us by having his friends withdraw their patronage, as is often threatened by people inexperienced in the affairs of life. We have learned that the majority of men cannot control the business of their own families, much less of their neighborhood, and that the neighbors of such people more often than otherwise wonder how they obtain any credit.

We find it much easier to say "Yes" to a request for

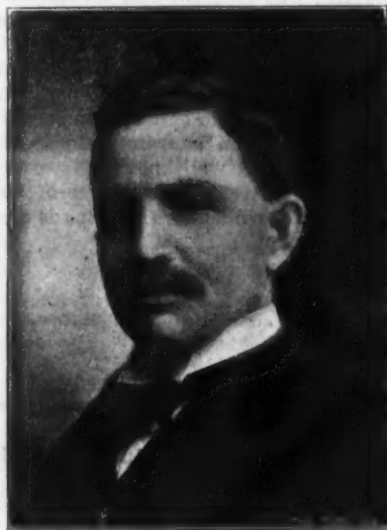
credit, but cultivate the habit of looking a man in the face when we have to say "No," and, if necessary, explaining our reasons. We endeavor to do this without giving offense, but being human we sometimes do, and have no doubt that occasionally we refuse credit to people who would make good and profitable customers, but this is a business chance which we are obliged to take.

BOOK LOSSES NOT ALL.

Unprofitable accounts bring losses considerably greater than the loss of the account itself. They bring the loss of our time, our bookkeeper's time, and often with an attorney and court fee added. If these could be done away with the expense of doing business would be greatly reduced and the net profits would be much larger, and the worry of business that shortens the life of many a man would be greatly lessened. We live in hopes that some bright mind will conceive of a plan where the reports upon personal credits will be as easy to obtain as it is to-day easy to obtain prices upon commodities in which we deal, but we realize that before this is brought about personal animosities and jealousies between rival business houses must be put aside, and that the parties directly benefited must be willing to pay their full share toward such necessary expense.

OVERBUYING.

While I have laid much stress upon our careless and expensive credit system I realize that there are other dangers to be avoided by us, in order that our capital may not be impaired and our credit weakened. One of the hardest to avoid is overbuying, which causes thousands of merchants to tax their credit to the utmost, to worry themselves into



GEO. B. M. TOWNER.

premature old age, if not the grave, even when not the cause of disastrous failures. Oftentimes payments are made promptly, but it is through financial assistance of our banker or our friend, at the expense of our profits, or of a large proportion of them, by added interest charges.

Let us keep in mind that this interest works all the time, days, nights and Sundays, is not a member of any union and never demands shorter hours, although when times get hard and money tight it often asks increased pay. It is this interest that too often more than eats up the amount we had supposed that we had saved by increasing our orders to a speculative quantity. Let us avoid the flattery of our friend, the commercial traveler, who talks to us about carloads as if it was our habit of buying carloads of his wares every week, every month or every season. Let us rather go carefully over last season's purchases and sales and see if we did not then purchase too largely of this or that article; if the people for some reason did not change their minds and leave upon our hands or shelves a lot of goods we felt confident of selling, and which we would not have purchased had we known we were to have had a backward spring, a dry summer or a wet fall. If conditions should prove favorable, couldn't we sort up often at a very small additional expense, much less in reality than the loss forced upon us by having to carry at an expense or to dispose of at a loss our overpurchases? This is a serious proposition which each of us must face and decide for himself, but I am of the opinion that the money lost by carrying overstocks, causing additional interest, rent, insurance charges and loss by shrinkage in value, is many times greater than the amount originally gained in lower prices by swelling quantities beyond those normally required in our business.

INSURANCE A CREDIT ASSET.

Another very important question for us to consider is that of insurance in its application to credit. The concern that

carries an insurance upon its property to from 75 to 90 per cent. of its actual value adds to its credit value with the conservative creditor. There is no gainsaying this, and while we may sometimes feel that in paying premiums upon insurance policies we are paying for "dead horses," such is not the fact. We are really thereby not only assuring ourselves that in case of a fire loss we will not be wiped out of business, and possibly for all time, but we are assuring our creditors that in case of such loss their accounts against us are still good. The value of each of these assurances is of too great importance to be either overlooked or ignored.

Let us carefully watch the leakages in our business and stop them, aim to find out our own errors and shortcomings and correct them, and keep our hands upon the public pulse, and I believe that the best of us would see a decided improvement in our profit account, which is in reality the one object the great majority of us have for being in business.

Collections.

Not being able to attend the convention, J. H. Murray of Cadillac entrusted the reading his paper on "Collections" to his business partner, E. J. Morgan, as follows:

In my opinion, good collecting must begin with good selling, or, rather, with good judgment in the opening of accounts. To do this successfully it is a good policy for the collector to have control of this branch of the business, and when application is made for credit he should familiarize himself, as far as possible, with the circumstances and general reputation of the prospective debtor, where he has



E. S. ROE.

traded heretofore, and, in fact, all the information about him that can be obtained.

A USEFUL INFORMATION BLANK.

In this connection we have a blank which we have filled out stating the name, residence, real estate and personal property, if any; where employed and for how long a time, former employer, age, married or single, salary and time of pay.

We have found this a great help in determining the advisability of extending credit. This method gives an opportunity for quite a talk with him and a chance to draw out many facts which might otherwise never become known. If, after this, we decide to give the credit, he signs the statement, which we place on file in our office. One great advantage with this is that at the very outset the customer is given to understand that you are careful in extending credit, that it is purely a business transaction, and that you are accommodating him simply because he has given you a good impression of himself. Above all, he always remembers that he has signed something, which often conveys an idea that it might be something binding.

Another great aid to collections is the use of a good contract note. There are many kinds of goods in the Hardware business upon which this may be successfully used, and when it is used, with part payment down, it nearly always makes good security for the balance. If no payment is made at time of purchase, even then such an account is much more easily collected than a book account.

When a man approaches you with a request for credit, ascertain how much he desires and about when he expects to pay the account. When the time agreed upon has expired the real work of collection begins.

At this time we are confronting what we may term three divisions of our accounts: Prompt payers, slow payers and worthless accounts; for I believe no one can do a credit

business without sometimes making the mistake of passing out goods for which it will be very hard to secure payment.

PROMPTNESS ALL IMPORTANT.

In all cases where there are accounts, whether good, slow or worthless, I think that a great measure of success in their collection must depend on our promptness. A statement should be sent out the first or last of each month whether the account is due or not. It should be worded in such a manner that no offense can be taken by the recipient if the account is not due; and if the account is due, the customer's attention should be called to the fact that he must settle in order to make his own agreement good.

After this statement has been sent to a slow payer and no response has been received, a second or third should be sent, together with a polite note, each being more urgent than the former. Copies of the letters should be kept for reference. A printed form of letter may be used. These are easily filled out and, I think, answer the purpose very well, saving a large amount of time and labor.

PERSONAL VISITS TO DEBTORS.

When these fail, good results are often obtained by a personal visit. Much more may be accomplished if the debtor is approached in a spirit of friendship. Right here the good collector must call to his aid all the sagacity and cunning at his command, for he may be confronted with all the excuses which a possible expert in the art of avoiding payment can produce.

There may be harrowing tales of misfortune and dire distress calculated to move the hardest heart, or there may be a heaping of abuse upon your own head and a volume of terrible charges against your firm which, no matter how unjust, cannot fail to destroy some of your complacency. Here, as I said in the beginning, no set of rules can be used; the collector must be governed by the conditions surrounding the case and use his best judgment in dealing with them. The only two rules that I know to be of any avail are to be persistent and retain your good nature. For, if a collector becomes angry, the debtor has him at a disadvantage, but if he remains unruffled, oftentimes he may turn the tide and go away with some kind of satisfaction. Failure at this point, however, usually develops what will later be considered worthless accounts. It is, therefore, important that every effort be made to obtain a settlement, in which your customer shall still have a feeling of good will toward yourself and the firm.

It is highly important to retain the good will of the debtor, even though a settlement cannot be made, for possibly the collector will have to approach him again and again on the same errand and for the same account, or it may be that some other member of the firm or some one in the firm's employ can succeed where you have failed.

If all efforts fail at this time, and the account has to be put into the profit and loss column, it should by no means be lost sight of. A record of such accounts should be kept and an effort made to collect them whenever a favorable opportunity occurs to call the debtor's attention to them.

If nothing better can be done, perhaps you can obtain a note for the amount, and later trade it or turn it into cash.

In conclusion I would suggest that one idea be borne in mind: Collect, as far as possible, without recourse to legal action, never allowing your customer to think that you have lost confidence in him.

A vote of thanks was tendered Mr. Murray for his instructive paper.

The Catalogue House Problem

was the subject of the next address, and was presented by W. P. Bogardus, president of the national association. Mr. Bogardus's paper appeared in our last issue.

Upon the conclusion of his paper Mr. Bogardus read several letters from manufacturers heretofore tolerant of the catalogue house who have recently taken the stand of dealing only through the jobber and Hardware dealer, as illustrating what had already been attained by the national body of retail dealers. He also read a letter from an Indiana Hardware dealer advocating the placing of insurance by every Hardware dealer in the retail Hardware dealers' mutual insurance companies, calling attention to the small cost in comparison with the excellent protection afforded. Mr. Bogardus ended his remarks with a brief statement of the condition of affairs in the national insurance body, in which he said that there was in force to date approximately \$600,000 worth of insurance.

A discussion followed, which was led by George W. Hubbard of Flint. Mr. Hubbard spoke of the importance of hammering into the brain of every dealer the danger of overbuying, which is the cause of many failures on the part of dealers who buy more than they can afford

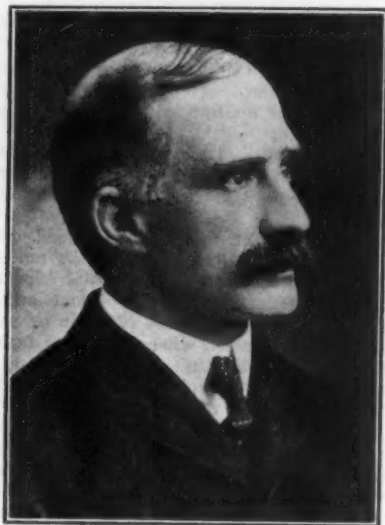
and can dispose of. Referring to the paper on "Collections," which was read earlier in the session, he said that the time to do the collecting is at the time the sale is made. He stated that he believed the catalogue house and department store were "on the toboggan," illustrating his views with the statement that in keeping a record of the freight coming into Genesee County from such sources during the last 18 months it was found that the amount had decreased 60 per cent. as compared with the 18 months previous.

C. E. Pipp, being called upon to address the meeting, requested the secretary to read an article which he had written and which had been published in the *National Bulletin*. The article advocated the formation of a strong central organization in each State, and the dissemination of printed matter published at such headquarters for circulation among the customers of the retailers, calling their attention to the advantages of trading at home, and exposing misleading statements made in catalogue house literature. He pledged that his firm and 25 others of the State of Michigan were now ready to contribute \$50 for the organization of such a State campaign.

E. S. Roe of Buchanan followed the discussion with his paper on "Some Points which Contribute to the Successful Retailing of Hardware," as given in our issue of last week.

THURSDAY AFTERNOON SESSION.

The closing session was an executive one, to which members only were admitted. An amendment was made



C. L. GLASGOW.

to the by-laws which authorizes the president and secretary to be delegates *ex officio* to the conventions of the national association, and in cases where it is impossible for either or both to attend gives them power to select one or two, as occasion demands, from the Executive Committee to be substitute delegates.

Unfairness of Jobbers.

The attitude of jobbers toward the retail trade was discussed, and the secretary was instructed to make formal complaint to one jobber in the State, who had positively refused to recognize a local association of dealers or to pay any attention to the wishes of members of the State association. This led to a discussion as to whether it was incumbent upon the State association to extend the force of its influence to local Hardware associations, only a small proportion of whose members are members of the State association, but the body took the broad ground that the welfare of each was the welfare of all, and that the association could not afford to refuse to give its assistance because a few members of the local association failed to lend their financial support to the State body.

Trading Stamps.

The subject of trading stamps received a vigorous discussion. The consensus of opinion, not expressed in

any set of resolutions, was that the trading stamp was a nuisance and inflicted a loss rather than a gain in the long run.

Next Meeting at Saginaw.

There was rivalry between Lansing, Detroit and Saginaw for the place of next meeting of the association. Written communications from jobbing and manufacturing bodies in Detroit and Saginaw were presented, and were seconded by members present from those cities, while C. A. Gower of E. Bement's Sons, Lansing, made an eloquent plea in favor of his city. Saginaw was finally chosen.

New Officers.

The Committee on Nominations presented the following list of officers who were elected by acclamation. Of these the secretary and treasurer were re-elected, the balance being new officials:

PRESIDENT, J. B. Sperry, Port Huron.
VICE-PRESIDENT, George Towner, Muskegon.
SECRETARY, A. J. Scott, Marine City.
TREASURER, H. C. Weber, Detroit.
EXECUTIVE COMMITTEE: Egbert B. Standart, Holland; E. S. Roe, Buchanan; John Popp, Saginaw; J. G. Patterson, Detroit; Sam W. Winchester, Jackson.

This session was rushed, owing to the fact that the members were desirous of accepting the hospitality of local jobbers and manufacturers in a trolley ride about the city. The meeting adjourned *sine die* at 4.30.

After a trolley ride through both the residential and manufacturing portions of the city, the delegates were taken to the Lakeside Club, where an excellent dinner was served at 7.30.

Sidney F. Stevens, chairman of the Banquet Committee, introduced Geo. G. Whitworth as toastmaster. Addresses were made by A. Harshaw of Delray, Hon. C. L. Glasgow of Nashville, Hon. A. T. Stebbins, president of the Minnesota Association; J. H. Whitney, Merrill; President Bogardus of the National Association, and others.

Members Present.

The following members sent to the secretary affirmative replies to the question as to whether they would attend. It more nearly approximates a correct list of members attending than the incomplete convention hall register:

Raymo Brothers, Detroit.	*H. M. Weed, Bellevue.
Oliver Raymo.	*Jno. Van Male, Kalamazoo.
Dunham Hardware Co., Lansing, P. E. Dunham.	R. M. Billby, Lake City.
E. C. Wright, Sturgis.	*John De Kruij, Levering.
John W. Jackson, Ishpeming.	Meyer Hardware Co., Manton.
Geo. W. Leedle, Marshall.	S. G. Crankshaw, Mayville.
Pittman-Coates Hardware Co., Battle Creek, F. B. Coates.	Geo. W. Hubbard, Flint.
Paxon & Schoeneberg, Saginaw, A. G. Schoeneberg.	H. Barnum, Bailey.
V. A. Marshall, Ovid.	H. C. Hayman, Athens.
M. A. Benson, Saranac.	H. C. Waters, Paw Paw.
F. W. Bradley, Saranac.	R. M. Porter, Williamston.
Sturmer Bros., Pt. Huron.	Geo. H. Malley, Grand Junction.
Thomas A. Sturmer.	W. A. Hassock, Mendon.
N. C. Mason, Blanchard.	M. Waterbelt, Holland.
C. L. Glasgow, Nashville.	James Cogley & Son, Summit.
Jno. W. Draper, Detroit.	La Du & Baldwin, Coral.
Allen Havens, Bellevue.	Alex. J. McKinley, Grant.
Hoffman Hardware Co., Detroit, Caspar Hoffman.	J. A. Scott, Lowell.
T. J. Green, Detroit.	F. A. Turner, Caro.
H. B. Weber & Co., Ionia.	Chas. A. Orth, Detroit.
Smith & Barton, North Lansing, Jay M. Smith.	Scott Bros. & De Lisle, Marine City, A. J. Scott.
Shook Hardware Co., Pinanning, H. S. Shook.	Aiden & Judson, Grand Rapids.
T. Frank Ireland, Belding.	A. Harshaw, Delray.
Fred. F. Ireland, Belding.	J. G. Patterson, Detroit.
J. H. Temmink, Greenville.	Henry C. Weber, Detroit.
Jno. W. S. Pierson & Co., Stanton.	C. A. Day, Detroit.
Emil Jochen, Saginaw.	Foster, Stevens & Co., Grand Rapids.
H. Schnobel, Saugatuck.	J. J. Vander Meer, Grand Rapids.
Wm. Bennett & Sons, Hartford, Eugene Bennett.	Chas. Schlosser, New Baltimore.
T. L. Gillette, Charlotte.	Sam. W. Winchester, Jackson.
I. E. Hewitt, Maple Rapids.	F. M. Brackett, Battle Creek.
C. F. Lewis, Pentwater.	Minnie & Bromeling, Eaton Rapids.
Mechem & Fuller, Fennville.	Phillips Bros., Allegan.
G. B. Mechem.	S. L. Boyce & Son, Port Huron.
E. S. Roe, Buchanan.	S. L. Boyce, Jr.
	H. J. Morgan, Cadillac.
	C. E. De Clements, Detroit.
	C. E. Pipp, Otsego.
	E. B. Standart, Holland.

Peck Brothers, Coloma.
O. J. Kuhn, Belding.
C. De Young, Crystal.
Herron & Son, Boyne.
B. J. Downing & Sons, St. Charles.
E. A. Shults, Lawrence.
Chas. M. Norton, Lansing.
Owosso Hardware Co., Owosso.
Geo. Waigle, Pewamo.
A. J. Rankin, Shelby.
Geo. E. Cook, Grand Rapids.
R. B. Boylan, Lowell.
F. A. Rechlin, Bay City.
A. E. Kromer, Manton.
M. M. Callaghan, Reed City.
J. A. Miller, Vicksburgville.
A. N. Russell, Sheridan.
Jno. Nies, Holland.
*E. J. McNaughton, Middleville.
Jno. F. Duncan, St. Joseph.
Edwin F. Platt, St. Joseph.
*J. E. Geiger, Barryton.
Chas. Larry, Howard City.
Wm. Thomas, Jones.

* Starred names indicate new members enrolled during the session. There were 18 such enrollments, which, with 27 new members enrolled by the secretary between January 1, 1904, and August 8, makes a total of 45 new members for the year thus far.

EXHIBITORS.

The convention was attended by an unusually large number of manufacturers and jobbers, who had set exhibits in the corridors and rooms of the hotel, and also at the Hotel Livingston. The leading exhibitors were the following:

ESTATE OF P. D. BECKWITH, Dowagiac, Mich., occupied room 102, a large parlor. The walls were embellished with the familiar Indian "Doe-wah-jack" poster, as well as other display advertising matter, and tables were loaded with attractive printed matter. The exhibit was in charge of W. T. Leckie, assisted by J. A. Howard, who gave to guests and visitors artistic "Round Oak" steins as souvenirs. J. O. Beacraft, auditor of the company, was at the exhibit Thursday.

THE HOME PRIDE RANGE COMPANY, Marion, Ind., was represented by O. C. Harrison, who showed new models of Stoves and Ranges and presented a Nickered Stove Lifter as a souvenir.

THE MICHIGAN STOVE COMPANY, Detroit, Mich., occupied a reception room, but did not show samples, its line being represented by photographs. L. B. Young and O. E. James, who were in charge, presented visitors with leather match box souvenirs embossed with the Garland trade-mark.

THE SILL STOVE WORKS, Rochester, N. Y., exhibited a new type of Base Burning Heater and one of their standard Ranges. This is known as the Sterling All Fuel, as it is claimed to be adapted to the use of any form of coal, wood or coke. W. J. Hendershott and W. H. Scott, both from the home office at Rochester, were in charge of the exhibit.

THE ROCHESTER STAMPING COMPANY, Rochester, N. Y., had a good exhibit of Silver, Nickel, Argentine and Brilliant Ware. J. R. Sackett, Michigan representative, was in charge.

MORLEY BROTHERS, Saginaw, Mich., showed a line of Cutlery, Silver Ware and Sporting Goods, the exhibit being in charge of C. E. Moore, A. C. Pendall and T. E. Saylor.

WHITE LILY WASHER COMPANY, Davenport, Iowa, presented to each visitor who registered a numbered card, the number of his card corresponding to the number of the register. A drawing was made before the close of the convention and the sample Washer exhibited was drawn by John Nies, Holland, Mich. The exhibit was in charge of R. P. Searle, manager of the Toledo, Ohio, branch, and A. F. Victor, assistant.

PITTSBURGH STEEL COMPANY, Pittsburgh, Pa., showed a sample of their Perfect Woven Wire Fence stretched on a frame. F. A. Tower was in charge of the exhibit and E. Steytler, manager of the Fence department of the company at Pittsburgh, was also present during part of the convention.

PITTSBURGH PLATE GLASS COMPANY and its subsidiary company, the PATTON PAINT COMPANY, Milwaukee, Wis., had an unusually large exhibit of Plate Glass, Underwriters' Wire Glass, Fancy Glasses of various kinds, and a complete line of Patton Paints, represented both by cans and color cards and charts. The room was liberally decorated. The exhibit was in charge of J. G. Cooper and W. J. Shannon, while A. H. Gillespie, Detroit manager of the company, was present during most of the session.

LOWE BROTHERS COMPANY, Dayton, Ohio, showed a line of Ready Mixed Paints in cans and illustrated the magnitude of their line by means of color cards. C. J. Kennedy,

Josiah Thompson, Owosso.
Geo. P. Griffin, Albion.
J. H. Whitney, Merrill.
*H. G. Mulholland, Pottsville.
Adrian De Windt, Grand Rapids.
T. Stadt & Sons, Grand Rapids.
W. P. Kutsche, Grand Rapids.
W. S. Denison, Grand Rapids.
Geo. G. Wilman, Grand Rapids.
Frank L. Bean, Grand Rapids.
Henry Schaafsma, Grand Rapids.
H. M. Johnson, Grand Rapids.
*Clark Hardware Co., Saginaw.
*Purdy Bros. & Co., Caro.
*E. J. Coe & Co., Lapeer.
*E. C. & O. H. Gale, Albion.
*Kennedy & Derby, Portland.
*S. A. Howly & Co., Lake City.
*P. C. Thomas, Breckenridge.
*J. C. Morris, Mulliken.
*E. Bement's Sons, Lansing.
*E. D. Goodwin, Hartford.
*H. C. Hessler, Rockford.
*F. W. Pierce, Owosso.

sales agent of the company from Dayton, was in charge, assisted by E. K. Skinner and W. G. Bittner, Michigan salesmen. They gave as souvenirs a watch fob and pin bearing the letters "H. S.," representing the company's trade-mark of "High Standard."

L. C. PECK, Berlin, Wis., represented the manufacturing department of the C. A. Peck Hardware Company at that place, and showed the Gem and Jewel Rural Mail Boxes and the Automatic Nail Keg Truck made by that company.

THE DUNLAP MFG. COMPANY, Dunlap, Iowa, exhibited samples of the Overton Adjustable Stove Pipe. G. T. Hood, who had charge of the exhibit, explained a recent change made in the design of the ears in the Pipe which made it easy to adjust Pipe that is hereafter sent from the factory nested. It has been the practice of the company to ship this Pipe nested heretofore only to such dealers as were willing to go to the trouble of adjusting the somewhat difficult arrangement for restoring the pipe. The new construction makes this work extremely simple.

THE KALAMAZOO SLED COMPANY, Kalamazoo, Mich., was represented by the L. Gould Company, Chicago, in the person of O. C. Shults of that company. The exhibit consisted of a large room full of Sleds, Cutters and Coasters. One of the novelties of the exhibit was a large Coaster Bob-sled with a foot brake arrangement which permitted the rider to force into the snow a sharp toothed shoe at the rear of the sled by pushing the foot lever at the front, and Mr. Shults explained that this arrangement had demonstrated its ability to stop a heavily loaded Sled running at high speed in a remarkably short distance. Another line that was new was a series of Coasters and Sleds upholstered in a weather proof padded material.

THE ACME WHITE LEAD COMPANY, Detroit, Mich., had a large exhibit of Paints, Varnishes and the like in charge of



S. W. WINCHESTER.

A. M. Woodward, the advertising manager, assisted by C. F. Pulfer, H. F. Whitaker and G. C. Burnham.

THE ROBESON CUTLERY COMPANY, Rochester, N. Y., distributed booklets descriptive of their Pocket Knives and Razors.

FLETCHER HARDWARE COMPANY, Detroit, Mich., showed a line of P. & F. Corbin's Builders' Hardware, Cutlery and Specialties at the Livingston Hotel. The exhibit was in charge of C. P. Mitchell, F. J. Gray, A. B. Jorden and G. H. Floyd.

SOSS INVISIBLE HINGE COMPANY, New York, represented by J. E. Moyer, jointly occupied the parlor at the Livingston Hotel with the Fletcher Hardware Company.

THE FOREST CITY PAINT & VARNISH COMPANY, Cleveland, Ohio, distributed artistic oxidized silver stick pins bearing their monogram.

STOWELL MFG. & FOUNDRY COMPANY, South Milwaukee, Wis., represented by W. L. Bigelow, showed a full sized model of the Stowell Hay Carrier and also exhibited Side Wall and Floor Registers, Patent Vises, Ajax Barn Door Hangers and other specialties. Mr. Bigelow presented a souvenir pen wiper, aluminum inhaler and gold horseshoe stick pin. Not only his exhibit but the convention hall and corridors and lobby of the hotel were liberally hung with large banners bearing the words, "Make hay while the sun shines," or "Hay there."

SIMONDS MFG. COMPANY, Fitchburg, Mass., and Chicago, showed a varied line of Hand Saws. The exhibit was

in charge of W. D. Federy and J. Van Dyke, Jr., Michigan representatives of the company.

EDW. FROLICH PAINT & GLASS COMPANY, Detroit, was represented by H. M. Kipp, Michigan salesman, who had an array of color cards advertising "Magnet" Paints made by that firm. Mr. Kipp also presented an aluminum inhaler.

THE SPERRY MFG. COMPANY, Ann Arbor, Mich., occupied a large space with an exhibit of Gasoline Lamps, Lighting Systems, Store and Residence Lights, Gravity Lamps, Tubular Lamps, Hanging Lamps, &c., all using gasoline for fuel. This exhibit was a "live" one in the sense that the lights were in full blast. H. H. Seely, president of the company, was in charge of the exhibit, assisted by W. D. Roye.

CRIBBEN & SEXTON COMPANY, Chicago, showed samples of their Regal, Splendid, Sparkling and Elegant Base Burners and their Superb, Popular and Capital Steel Ranges, as well as a special Hot Blast Stove. The exhibit was in charge of W. S. Jackson and C. O. Wheeler.

THE WORMNEST STOVE & RANGE COMPANY, Grand Rapids, had a large exhibit of Stoves and Ranges from makers whom they represent in that territory, including Monogram Stoves and Ranges of the Quincy Stove & Mfg. Company, Prizer's Regal Range and Champion Hot Blast Heater, made by Prizer-Painter Stove & Heater Company, Reading, Pa., and samples of Ranges from the Ashland (Ohio) Steel Range & Mfg. Company. The exhibit was in charge of Mr. Wormnest himself.

BRAND STOVE COMPANY, Milwaukee, showed two high closet and reservoir Ranges. Charles A. Kinder, Michigan representative, was in charge.

E. C. ATKINS & Co., Indianapolis, Ind., showed a full line of their Silver Steel Hand, Panel, Cross Cut and One Man Saws; also a full line of Small Saws and sundries. One of the features of the display was an electric sign. The company is prepared to furnish these signs to merchants with their names on them, and suggests that dealers ask the company's salesmen how to obtain them. The company was represented at the convention by W. D. Sandford, general sales agent, Chicago; A. J. Carson, Michigan salesman, Kalamazoo; S. M. Perrigo, Hand Saw salesman, Chicago, Ill., who distributed two very handsome souvenirs, which were much appreciated by the trade.

CONVENTION NOTES.

While the Michigan Association has not as yet formed an insurance company, the matter of Hardware mutual insurance was well discussed. President W. P. Bogardus of the National Association, Secretary C. A. Peck of the Wisconsin State Association and President A. T. Stebbins of the Minnesota State Association were present, and all used their endeavors to induce members of the Michigan body to take out insurance either in the National or State associations named.

The programme of the convention left delegates with nothing to do Wednesday evening. More than 100 delegates and supply men took the cars to Lakeside Park, where they attended a vaudeville performance, and when they returned, a little before midnight, they found a surprise in store for them in the shape of a "Dutch lunch," tendered by Morley Bros. of Saginaw and presided over by C. E. Moore of that firm.

Delegates reported that both the wheat, corn and potato crops of a large area of the State were injured by severe drought, and for that reason the disposition to be extremely conservative in purchases prevailed. Supply men, while flattered by the generous attendance of dealers at their exhibits, reported that but a small number of orders was taken.

HERMANN BOKER & Co., 101-103 Duane street, New York, are sole selling agents for the United States for the Expansion Key and Watch Chains made by E. C. Gipe, 1289 West Ravenswood Park, Chicago, Ill., illustrated and described in these columns May 12 last. These Chains are made of fine nickel silver, with spiral springs in each link, giving an expansion of from 15¼ inches to 22¼ inches in the key chain. The watch chain's normal length is 13 inches and 18½ inches expanded. The great stretching capacity is to minimize the risk of breakage, pulling off of buttons and other damage, if caught, especially among many individuals whose business is such that a watch or clothing is more exposed to such risks.

REQUESTS FOR CATALOGUES, &c.

The trade are given an opportunity in this column to request from manufacturers price-lists, catalogues, quotations, &c., relating to general lines of goods.

REQUESTS for catalogues, price-lists, quotations, &c., have been received from the following houses:

FROM B. W. PILKINGTON, Anthon, Iowa, who has lately opened up in the Hardware, Stove and Paint business.

FROM DESPATCH PLUMBING COMPANY, Despatch, N. Y., who, in addition to the line of business indicated in the firm style, will handle Heavy and Shelf Hardware, Stoves and Tinware.

FROM J. F. DEWITT, Sheldon, Iowa, who has succeeded Housen & Eastman in the Hardware, Stove, Tinware, Sporting Goods, Plumbing and Furnace business.

FROM THE GRUBER-MORRIS HARDWARE COMPANY, Daytona, Fla., which has been incorporated with a capital stock of \$25,000 to conduct the wholesale and retail business in Hardware, Tinware, Builders' Supplies, Plumbing, &c. M. E. Gruber is president; L. L. Gruber, vice-president, and J. D. C. Morris, secretary.

FROM HENDERSON HARDWARE COMPANY, Aberdeen, Miss., which has been organized with a capital of \$50,000. The company will wholesale and retail Shelf and Heavy Hardware, Agricultural Implements, Stoves, Tinware, Wagons, Buggies, &c.

FROM C. A. TILTON & Co., South Portland, Me., who are successors to Charles A. Tilton in Hardware, Stoves, Agricultural Implements, Paints, Plumbing, &c.

FROM NEIMAN & FREY NORRISTOWN, Pa., who are dealers in Hardware, Stoves, Tinware, Paints, Sporting Goods, &c. The firm is successor to George F. Neiman estate and Charles F. Frey.

FROM VINITA HARDWARE COMPANY, Vinita, I. T., which has succeeded the Darrough Hardware Company.

FROM W. E. PIERCE & Co., Milford, N. H., dealers in Machinery and Mill Supplies, who request catalogues relating to machinery and supplies for contractors, mills and power plants.

DEATH OF JAMES W. SOPER.

JAMES W. SOPER, secretary of the Joseph F. McCoy Company, New York, died at Atlantic Highlands, N. J., August 10, after a short illness caused by indigestion and an intestinal trouble. He was born in Waretown, Ocean County, N. J., and was employed by the father of J. F. McCoy, present head of the house as a boy of about 15 years, fresh from school, the concern then being Van Wart & McCoy. He has been continuously with the house ever since. For a number of years he had been manager of the Railway Supplies and Machinery department, having full charge of this branch of the business, which he developed very successfully. He was well and favorably known in the machinery trade both in New York and outside. He was active in church and Sunday school work, having been since his residence in Brooklyn a member of the Hanson Place M. E. Church, later transferring his membership to the Nostrand Avenue M. E. Church. He was also a member of the Legion of Honor. He is survived by a widow.

METALS of all kinds are being rushed into campaign badges and souvenirs and the various paraphernalia of great Presidential contests. Pretty much everything that man carries in his pockets and which woman wears as an ornament is being adapted for campaign purposes. One firm of Pocket Knife manufacturers reports an order for a thousand knives with a blade etched with the names of Presidential nominees. The manufacturers say that the campaign symbol craze promises to be greater than ever before.

BRITISH LETTER.

Hints for Export Merchants.

AUSTRALASIA.—An interesting series of articles is just now going through the *Magazine of Commerce*, entitled "Points for Exporters," among other countries dealt with being Australia, South Africa and Spain. The writer points out that the effect of the protective policy pursued by Australia and New Zealand is that the industries of the different colonies are being developed more and more every year, and the local manufacturer is acquiring a firm hold on domestic markets. The creation of the Commonwealth and the consequent abolition of interstate tariffs has enormously extended the field of the colonial manufacturer, who is now free to place his goods in any part of the great Australian continent, being everywhere protected from outside competition by the Commonwealth tariff. There is now little scope for casual exporters from Great Britain, and even the ordinary merchant within the country, who, not many years ago, imported general goods and sold wholesale, has almost disappeared. All the wholesale dealers in imported articles have branch offices in London, or order their goods as required by cable. The law of bankruptcy in Australasia is practically the same as the British law—in fact, speaking generally, the merchant law throughout the Commonwealth and New Zealand is similar to that of England. A peculiarity of New Zealand law relating to taxation is that any one living outside the colony and trading in it has to pay income tax just as if he were a resident. The agent is answerable as taxpayer for making the returns and the payment of the taxes. The rate of tax thus levied is 6 pence in the pound.

SOUTH AFRICA.—No solicitor in the Transvaal and the Orange River Colony can institute legal proceedings for the recovery of accounts due to nonresident merchants without being first provided with a full power of attorney, which should be drawn up by a solicitor in England, and legalized by being certified before a notary public, who must have his signature authenticated by the mayor of the town in which he is practicing. Where a nonresident trader has a large connection in the two colonies it would be to his advantage to appoint an agent, acting under a general power of attorney, so as to be able to prove debts and prosecute suits without the trouble and expense of taking evidence here on commission. An important point to be noted is that, in disputed cases, the defendants are entitled to demand security for their costs, and, therefore, where there is any probability of a defense being set up the solicitors conducting the suits should be furnished beforehand with cash deposits, so as to avoid any delay in the event of security for costs being demanded. The foregoing procedure is generally applicable to Cape Colony and Natal, with the exception that a power of attorney can be dispensed with where the creditor is able to furnish his legal representative with a written admission of the debt from the debtor.

SPAIN.—Foreign commercial travelers are at liberty to travel for orders without restriction throughout the Kingdom of Spain, the only condition imposed being that they should come furnished with certificates of identity. These certificates are available for 12 months, and most of the important Chambers of Commerce of the United Kingdom have made arrangements to issue them. It is futile to attempt to open up a connection in the Spanish market by correspondence alone, especially where it is desired to introduce articles previously unknown in the country. A traveler should be sent to interview personally prospective customers, and should have a good knowledge of Spanish. Samples are subject to the usual import duties, but if it is intended to take them out of the country again these duties should be paid only as a deposit, and their reimbursement demanded when the samples leave Spain. When forwarding packets of samples by post traders are recommended to exercise the greatest care to make the declaration of the contents as clear and as exact as possible. A copy of the Spanish tariff should be procured and studied. In case of bankruptcy in Spain it is necessary for foreign creditors to be represented by a local solicitor, acting under a power of attorney, if they desire their interests to be adequately protected. The regulations of the Spanish

Post Office are singularly favorable to the distribution of printed advertising matter within the country.

Irritating Regulations.

The following complaint received by a British manufacturing firm from Australia should be carefully noted by American exporters who do a specialty trade. The correspondent writes as follows:

The Commonwealth customs officers are giving endless trouble regarding the printed matter wrapped around tins or included in any small packets of merchandise. They are now opening and inspecting every shipment received and charging a duty of 3 pence per pound on all such wrappings. To prevent the goods being opened and their wrappers damaged it will be necessary in future to give on the invoices of each shipment the approximate weight of any such printing for these markets. We do not think that this absurd regulation is likely to last long, as it is causing a very considerable amount of annoyance to all importers of both English and foreign goods shipped in packet form, for nearly all such lines contain one or two circulars wrapped around each article, so that half the merchants in these colonies are being fined for omitting to include these paltry items in their custom house entries. You will quite understand that, stupid as these regulations are, now that they have become law it is necessary to observe them.

Sub-Contracting in the Lock Trade.

In these later days no man is master even of his own workshop. It often happens, however, that master and man suffer from some bad method or vicious trading principle. If the men take action, as often as not the master is highly delighted. An instance of this took place this week, when a deputation of locksmiths waited upon the Minister of War to protest against sweating and subletting in connection with War Office contracts in the Iron Plate and Lock trades and the inspection of Anvils and Vises. The deputation briefly pointed out that in the Lock trade many contracts were obtained by London firms and were then sublet to firms in Wolverhampton and the district, and frequently sublet again to very small manufacturers or home workmen. The same system applied in the Iron Plate trade, and the deputation contended that it was a violation of the fair wage resolution of 1901; that under the system a man never became a competent workman; that many of the best employers refused to tender, and that where the system obtains work of an inferior character was sent out.

The Danger of Insecure Combinations.

It is too often assumed that if a number of firms combine, up will go prices and prosperity will be secured. This is not always the case, and an instance in the reverse sense may be given in the case of William Cooper & Goode, Limited, the old established metal rollers and drawers of Birmingham. The directors' annual report states that, owing to the unsatisfactory state of the metal trade generally, the profits of the company will not permit a dividend on ordinary shares. The net profit shown on a capital of £100,000 is only £2711. At the annual meeting of the company the chairman explained that the position of the company was due entirely to the fact that they entered into an agreement with a number of other big manufacturers in the same trade to maintain prices. The competition was at the time this was made very keen, and the idea of an association to obtain better prices, which included a large number of the principal metal people, appeared to have every prospect of success, so Cooper & Goode joined it. Their customers, however, did not like the combination, and some of them thought that Cooper & Goode were responsible for it. They quickly severed themselves from the association, and now that they were free again they would be able to keep their mills going with business on which they could earn a profit.

RICE & MILLER, Bangor, Me., in addition to the five-story brick store in which they began business, have leased the building adjoining, which is of the same size, and are putting up a two-story annex, 40 x 60 feet, in the rear, thus extending the whole length of the wharf to the river. The above, with their other storehouses, will greatly facilitate their receipt and shipment of freight.

ST. LOUIS EXHIBIT OF FRIEDR. DICK.

JOHAN CHATILLON & SONS, 85-93 Cliff street, New York, manufacturers largely of Scales and butchers' Tools, are in charge of a fine exhibit, as here illustrated, of butchers' Steels, etc., at the Louisiana Purchase Exposition in St. Louis, made by Friedr. Dick, Esslingen, Germany, for whom John Chatillon & Sons are sole selling agents in North America. This comprehensive display is installed in block 22 of the Machinery Building, and includes also butchers' Knives, Carving Sets, Cleavers, butchers' Belts, Files and kindred Tools manufactured by Friedr. Dick. This business, established originally in 1778, has always been conducted under the same name, employing now 450 workmen and using 300 steam horse-power. The house has already been the recipient



St. Louis Exhibit of Friedr. Dick.

of 50 medals and awards from various expositions, international and otherwise, including that of Chicago in 1893. The goods of this factory are largely marketed in Europe and all over the world, and we are advised this house is the largest producer of Steels and Files in Europe, using in their manufacture, it is added, only the best quality of material. Otto Dick, son of the present proprietor, arrived in New York April 21, en route to their St. Louis exhibit, spending a month there, and several weeks later seeing some of the larger American cities and places of special interest, returning to Germany the middle of June.

AUSTRALIA.

FROM A SPECIAL CORRESPONDENT.

RECENT advices from a valued correspondent in Australia, representing a large manufacturing company with several factories in the United States, thus refers to present Australian conditions. He says, under date of July 16, plenty of rain has fallen for the past two weeks, and everything looks favorable for another good harvest, adding, they certainly need it, for times are not good in New South Wales and Queensland, or in Melbourne (Victoria), but thinks they are over the worst in Victoria, as there is now a better feeling there. Queensland seems to be the worst of all, and business men in Brisbane, the principal city of that colony, say they are making nothing and cannot see much to look forward to for some time. In our correspondent's opinion, the whole country has had too much government and too many labor laws, &c. The people appear to have lived on borrowed money too long and now, when more cannot be got, they feel it.

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CHICAGO HARDWARE DEALERS' PICNIC.

THE tenth annual picnic of the Chicago Retail Hardware Association was held Wednesday, 10th inst., in Northwestern Park, about 40 minutes' ride from Chicago on the Chicago & Northwestern Railroad. The day opened rather inauspiciously, as it had rained steadily the night before, and when the first train pulled out the sky was overcast and gave very little promise of good picnic weather. Toward noon, however, the sun stole out, and the noon train was heavily patronized, so that the total attendance compared favorably with other years. The local manufacturers and jobbers were extremely liberal in their donations of prizes, there being no less than 112 prizes offered for the contests. All kinds of sports were arranged by the committee, from target shooting to potato and egg races, for men, women and children, so that those who desired to enter as contestants had an excellent chance of securing a prize. In addition to the large number of prizes the Geuder & Paeschke Company of Milwaukee, Wis., distributed several hundred pieces of Enameled Ware, which were eagerly sought for. One of the features of the picnic not on the programme was the presentation of a cut glass pitcher and twelve glasses to J. L. Smith, treasurer of the association. The presentation was made on behalf of a number of his friends, who have on several occasions been the recipients of his hospitality. The following are entitled to much of the credit for the success of the picnic: D. McLaughlin, W. H. Bennett, J. O. Becraft, D. W. Simpson, R. R. Elliot and W. A. Douglass.

S. W. CARD MFG. COMPANY'S NEW YORK STORE.

S. W. CARD MFG. COMPANY, Mansfield, Mass., has established a New York branch at 123 Liberty street, under the supervision of A. H. Briggs, manager of the New York store of the L. S. Starrett Company, who will henceforth represent both of these well known concerns. The S. W. Card Company has placed in this depot what it believes to be the largest stock of Taps, Dies, Screw Plates, &c., as yet carried in New York, thus enabling quick deliveries to be made in this important market. Mr. Briggs has been identified with fine mechanical tools all his business life, and is thoroughly conversant with these lines and the dealers who handle them.

MISCELLANEOUS NOTE.

Machinists' and Jewelers' Tool Chests.

R. Bliss Mfg. Company, Pawtucket, R. I., branch of the National Novelty Corporation, 826 Broadway, New York, is offering a machinists' and jewelers' tool chest, with two drawers, of selected chestnut, highly polished, with dark molding, drop handles, brass pulls and Yale lock, catalogued No. 27 C. The receptacle under the cover measures 18 x 10 x 2½ inches; the first drawer 17 x 8¾ x 1¼ inches and the lower drawer 17 x 8¾ x 2½ inches. The chest is designed to meet a demand for a chest serviceable but cheaper than those formerly made by the company, and is referred to as being substantially made and as low in price as material and workmanship will permit.

Improvements in Allith Door Hangers.

The Allith Mfg. Company, Chicago, has just placed on the market its improved design of hangers for barn, fire and other doors, shown in the accompanying illustrations. The hanger frame is changed from the former cross shaped design to a diamond form. At the same time the frame is a third longer and wider than formerly, the No. 2 frame now being 12 inches long and 6 inches wide and the No. 1 9½ x 4 inches. Both the change in design and the increase in size add to the bearing surface and strength of the frame, while the new design improves its appearance. The upper or track wheels have also been enlarged, No. 1 hanger having a 2½-inch diameter wheel

and No. 2 a 3-inch diameter. Greater strength and longer life have also been assured by the use of hardened steel

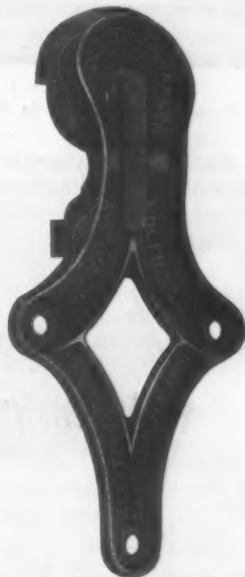


Fig. 1.—Frame of Allith Door Hanger.

in the bushings, axles and roller bearings. Outside of these parts the hanger is made throughout from tough

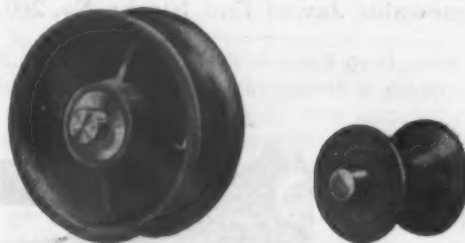


Fig. 2.—Track Wheel and Roller.

malleable iron. The new frame is shown in Fig. 1, the upper wheel and lower guide roller in Fig. 2 and the method of access to roller bearings by removing a washer



Fig. 3.—Washer of Track Wheel Removed.

in Fig. 3. The company has made up a large number of working models, which are given to dealers or agents.

The Stevens Hand Shield.

As a protection against excessively hot barrels on single barrel trap guns, the J. Stevens Arms & Tool Company, Chicopee Falls, Mass., is offering the hand shield



Fig. 1.—The Stevens Hand Shield.

shown herewith. It is especially adapted to the company's single barrel guns Nos. 185, 190 and 195, with top rib, as illustrated on page 60 of the company's catalogue No. 51. The shield is made of black walnut, nicely scored at intervals so as to afford a good grip, and is bored with a taper so as to fit firmly to the barrel. The top of the

shield is open and is held securely on the barrel by friction against the sides of the top rib. At present it is



Fig. 2.—Stevens Hand Shield on Barrel.

made only in one size, for the company's 12-gauge shot-gun, and is about 7 inches in length, with an outside

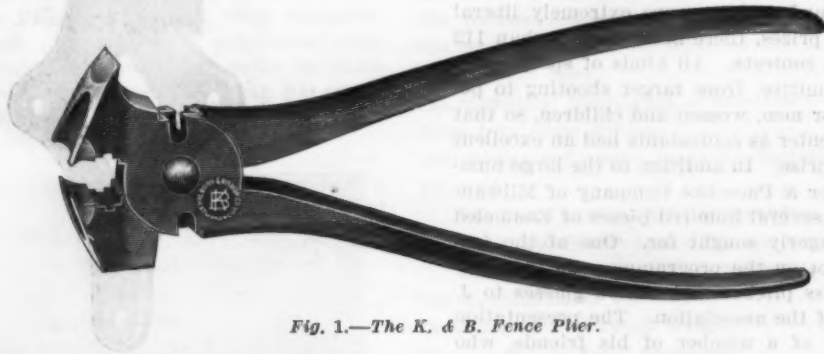


Fig. 1.—The K. & B. Fence Plier.

diameter of 1 3/4 inches, and being light, adds practically no weight to the gun.

Renewable Jawed End Nipper No. 260.

The Utica Drop Forge & Tool Company, Utica, N. Y., and the Smith & Hemenway Company, 296 Broadway,



Renewable Jawed End Nipper No. 260.

New York, are putting on the market the renewable jawed end nipper herewith illustrated. These are made in 8, 10 and 12 inch sizes, with frames of a high grade of cast steel and jaws of finest tool steel.

The Prouty Hasp Lock.

T. C. Prouty Company, Albion, Mich., is placing on the market the hasp lock herewith illustrated. The lock-



The Prouty Hasp Lock.

ing bar, which corresponds to the shackle on an ordinary padlock, is contained entirely within the lock. This is referred to as rendering it impossible to secure any hold or leverage whereby the lock could be forced, so that to break it open the entire case must be destroyed. The fact that the locking bar cannot be used as a feeler makes it nearly impossible to file a duplicate key. The hasp button on the face of the lock is used only to form a temporary catch, the same as the latch on an ordinary hasp. The device is self locking, as pushing the button on the lower right rim of the lock clear in springs the locking mechanism. One hundred locks without duplicate changes, two keys with each lock, are supplied, while it is

pointed out that ordinary padlocks are put up with from 4 to 12 changes, after which these changes are duplicated in each successive set of from 4 to 12 locks.

The K. & B. Fence Plier.

The Kilborn & Bishop Company, New Haven, Conn., is offering the fence plier shown herewith, made of high cutter plier steel, properly tempered. It is especially designed for use in putting up and repairing wire fences, the cutter being capable of taking in and cutting easily

the largest double twisted fence wire, the full capacity being 7-32 inch. Tempered gripping surfaces are finished inside the jaws for grasping a staple and pulling it from the post. The jaws are shaped to grasp the staple on its bend, just on the top of the wire where the staple is furthest out of the wood, as shown in Fig. 2, the pliers drawing the staple straight, ready to use again, as they draw both prongs at once. One side of the plier can be

used as a hammer, while the other side is provided with a cutting edge, to use in chipping away the wood when a staple is imbedded in the post so much as not to allow of gripping the wire with the pliers. This feature is of special value when a wire has been attached to a tree and the tree has grown over it. The jaws are also arranged to hold any fence wire for splicing. The tool is

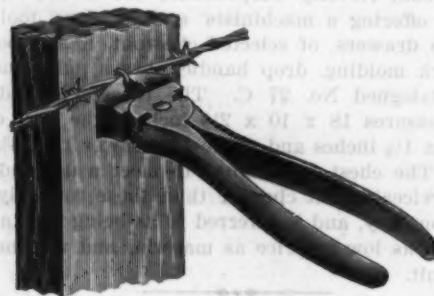


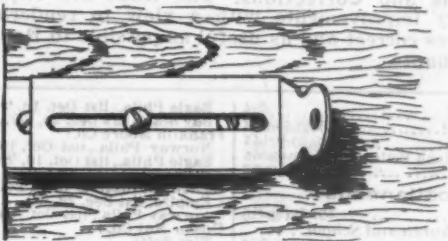
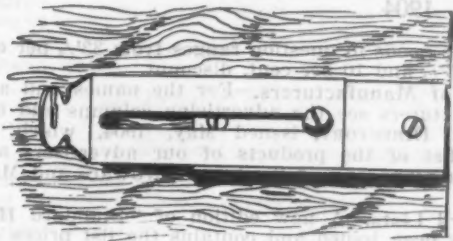
Fig. 2.—Jaws of Plier Grasping Staple.

warranted against defects in material and workmanship, and is generally adapted as an all around farm plier, wire cutter and hammer.

The Brainerd Adjustable Window Shade Bracket.

The accompanying half sized cuts represent an adjustable window shade bracket brought out by the Brainerd Mfg. Company, Despatch, N. Y. In use the

plate is screwed on the edge of the window frame, when the brackets can be adjusted to any size shade roller, after which the round head screw is tightened. The rim



The Brainerd Adjustable Window Shade Bracket.

on the bottom of the plate supports the roller, securing a firm and durable fixture. The brackets are furnished in bronzed steel.

The K. & B. Double Lip Countersink No. 557.

The accompanying illustration represents a double lip wooden countersink which is self centering, with a keen cutting edge. The manufacturers state that it will clear itself in any kind of wood and that it will cut a smooth, round hole. The tool is made from the best steel for the purpose, tempered and polished, and can be resharpened



The K. & B. Double Lip Countersink No. 557.

from the inside with a file. It is offered by the Kilborn & Bishop Company, New Haven, Conn.

Crane's Self Dipping Well Bucket.

The Warren Sheet Metal Company, Warren, Ohio, is introducing the self dipping well bucket shown in the

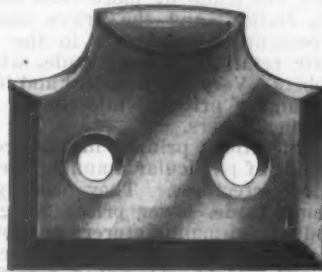


Crane's Self Dipping Well Bucket.

accompanying cut. It is remarked that galvanized well buckets only partially fill, and that it is the exception that one is able to bring to the top a full pail of water. This difficulty has been overcome by means of a small coiled spring, placed under the ear of the bucket, which causes it to fill immediately as it touches the surface of the water, and the weight of the water brings it to the top in an upright position. The spring engages the ball at its extremity, to result in simplicity and stability.

New Sash Lift.

The peculiar feature in the sash lift illustrated herewith and manufactured by the Columbian Hardware Company, Cleveland, Ohio, is in its construction, which is such as to prevent dust accumulating along the top and between



New Sash Lift.

it and the sash. The lift is furnished in wrought steel, also in bronze and brass, and will be supplied in all finishes, either plain or etched.

Improved Hand Chain Sheaves.

The hand chain sheave shown herewith is designed to operate with machine made twist link chain, the advantages being that machine made chain can be bought at about one-third the cost of straight link block chain and that the twisted links give an easier grip for the hands, enabling an operator to do a greater amount of work. The sheaves are made with unusually large flanges, so that it is seldom necessary to provide a guard to prevent the chain jumping the sheave. The material used is a fine grade of gray cast iron and, though light, the sheaves are referred to as being amply strong to withstand ordinary shop wear. They are made in three sizes, 18, 24 and 36 inch diameter, but other sizes can be made up

specially if desired. The bore and keyway can be made as desired within a reasonable variation on the different sizes, but unless otherwise ordered the keyways are cut



Improved Hand Chain Sheave.

to standard dimensions. The sheaves are manufactured by the New Jersey Foundry & Machine Company, 9 Murray street, New York.

Current Hardware Prices.

REVISED AUGUST 16, 1904

General Goods.—In the following quotations General Goods—that is, those which are made by more than one manufacturer, are printed in *Italics*, and the prices named, unless otherwise stated, represent those current in the market as obtainable by the fair retail Hardware trade, whether from manufacturers or jobbers. Very small orders and broken packages often command higher prices, while lower prices are frequently given to larger buyers.

Special Goods.—Quotations printed in the ordinary type (Roman) relate to goods of particular manufacturers, who are responsible for their correctness. They usually represent the prices to the small trade, lower prices being obtainable by the fair retail trade, from manufacturers or jobbers.

Range of Prices.—A range of prices is indicated by means of the symbol @. Thus 33% @ 33% & 10% signifies that the

price of the goods in question ranges from 33% per cent. discount to 33% and 10 per cent. discount.

Names of Manufacturers.—For the names and addresses of manufacturers see the advertising columns and also THE IRON AGE DIRECTORY, issued May, 1904, which gives a classified list of the products of our advertisers and thus serves as a DIRECTORY of the Iron, Hardware and Machinery trades.

Standard Lists.—A new edition of "Standard Hardware Lists" has been issued and contains the list prices of many leading goods.

Additions and Corrections.—The trade are requested to suggest any improvements with a view to rendering these quotations as correct and as useful as possible to Retail Hardware Merchants.

Abrasives—

Adamite in Carloads:
Crystal.....\$ ton \$90@100
Grain.....\$ ton \$120@140
See also *Emery*.

Adjusters, Blind—

Domestic, \$ doz. \$3.00.....33%
North's.....10%
Zimmerman's—See *Fasteners, Blind*.

Window Stop—

Ives' Patent.....35%
Tappin's Perfection.....35%

Ammunition—See Caps, Cartridges, Shells, &c.

Anvils—American—

Eagle Anvil.....\$ 74@74%
Hay-Budden, Wrought.....\$ 9@9%
Horseshoe brand, Wrought.....\$ 9@9%
Trenton.....\$ 9@9%

Imported—

Peter Wright & Sons.....\$ 10@10%

Anvil, Vise and Drill—

Millers Falls Co., \$18.00.....15%10%

Apple Parers—See Parers, Apple, &c.

Aprons, Blacksmiths'—

Hull Bros. Co.....30%
Livingston Nail Co.....30%

Augers and Bits—

Com. Double Spur.....75@75%
Boring Machine Augers.....66%70%
Car Bits, 12-in. twist.....60@60%10%
Jennings' Pattern.....50@100%60%
Ford's Auger and Car Bits.....40%5%
Forster Pat. Auger Bits.....35%
C. E. Jennings & Co.:
No. 10 ext. lip, R. Jennings' list.....25%
No. 30, R. Jennings' list.....10%7%
Russell Jennings.....35%10%2%
L'Hommedieu Car Bits.....15%
Mayhew's Countersink Bits.....45%
Millers' Falls.....50%10%7%
Ohio Tool Co.'s Bailey Auger and Car Bits.....40%10%
Pugh's Black.....20%
Pugh's Jennings' Pattern.....35%
Snell's Auger Bits.....60%
Snell's Bell Hangers' Bits.....60%
Snell's Car Bits, 12-in. twist.....60%
Wright's Jennings Bits (R. Jennings' list).....50%

Bit Stock Drills—

See Drills, Twist.

Expansive Bits—

Clark's small, 1 1/2, large, \$20.....50%10%
Clark's Pattern, No. 1, \$ doz. \$20.....50%10%
No. 2, \$18.....50%10%
Ford's, Clark's Pattern.....50%10%
C. E. Jennings & Co., Steer's Pat.....35%
Swan's.....60%

Gimlet Bits—

Common Double Cut, gro. \$3.00@2.25

German Pattern.....gro. \$4.50@4.75

Hollow Augers—

Bonney Pattern, per doz. \$10.00@11.00
Amos.....35%10%
New Patent.....35%10%
Universal.....30%
Wood's Universal.....25%

Ship Augers and Bits—

Ford's.....40%
C. E. Jennings & Co.:
L'Hommedieu's.....15%
Watrous'.....35%5%
Ohio Tool Co.'s.....40%
Snell's.....40%

Awl Hafts, See Hafts, Awl.

Awls—

Brad Awls:
Handled.....gro. \$2.75@3.00
Unhandl'd, Shouldered, gro. \$3@3%
Unhandl'd, Patent.....gro. \$3@3%
Peg Awls:
Unhandl'd, Patent.....gro. \$1@1%
Unhandl'd, Shouldered, gro. \$5@5%
Scratch Awls:
Handled, Common, gro. \$3.50@4.00
Handled, Socket, gro. \$11.50@12.00
Hawwood.....40%

Awl and Tool Sets—See Sets, Awl and Tool.

Axes—

Single Bit, base weights (up to 3 1/2 lb.):
First Quality.....\$6.25@6.50
Second Quality.....\$5.75@6.00
Axle Grease—See Grease, Axle

Axles—

Concord, Loose Collar.....50@54%
Concord, Solid Collar.....50@54%
No. 1 Common.....44@46%
No. 1 1/2 Com. New Style.....44@46%
No. 2 Solid Collar.....44@46%
Nos. 7, 8, 11 and 12.....60@5@60%10%
Nos. 13 to 14.....60@5@60%10%
Nos. 15 to 18.....60@10@70%
Nos. 19 to 22.....60@10@70%

Boxes, Axle—

Common and Concord, not turned.....15. 44@46%
Common and Concord, turned.....15. 50@54%
Half Patent.....15. 9@9%

Bait—Fishing—

Hendryx:
A Bait.....30%
B Bait.....25%
Competitor Bait.....20%25%

Balances—Sash—

Caldwell new list.....50%
Poulman.....50%10@60%

Spring—

Spring Balances.....60@60%5%
Chatillon's:
Light Spg. Balances.....40%10%
Straight Balances.....40%
Circular Balances.....50%
Large Dial.....30%

Barb Wire—See Wire, Barb.

Bars—Crow—

Steel Crowbars, 10 to 40 lb., per lb. 3@34%

Towel—

No. 10 Ideal, Nickel Plate.....\$ gro. \$6.50

Beams, Scale—

Scale Beams, List Jan. 12, '92, 40@10%
Chatillon's No. 1.....30%
Chatillon's No. 2.....40%

Beaters—Carpet—

Holt-Lyon Co.:
No. 12 Wire Coppered \$ doz. \$2.25
Tinned.....\$1.00
No. 11 Wire Coppered \$ doz. \$1.10
Tinned.....\$1.20
No. 10 Wire Galvanized.....\$ doz. \$1.75
Western W. G. Co.:
No. 1 Electric.....\$ gro. \$7.50
No. 2 Buffalo.....\$ gro. \$9.00
No. 3 Perfection Dust.....\$ gro. \$9.00

Egg—

Holt-Lyon Co.:
Holt, No. A, Japanned.....\$ doz. \$1.20
Holt, No. 1, Tinned.....\$ doz. \$1.50
Holt, No. B, Japanned.....\$ doz. \$2.00
Holt, No. 2, Tinned.....\$ doz. \$2.25
Lyon, No. 2, Japanned.....\$ doz. \$1.25
Lyon, No. 3, Japanned.....\$ doz. \$1.50
Tappin Mfg. Co.:
No. 60 Improved Dover.....\$6.00
No. 75 Improved Dover.....\$7.50
No. 100 Improved Dover.....\$7.00
No. 102 Improved Dover, Tin'd.....\$8.50
No. 150 Improved Dover, Hotel.....\$15.00
No. 152 Imp'd Dover, Hotel, T'd.....\$17.00
No. 200 Imp'd Dover Tumbler.....\$8.50
No. 300 Imp'd Dover Mammoth.....\$25.00
Western W. G. Co., Buffalo.....\$7.00
Wonder (S. S. & Co.).....\$ gro. net, \$6.00

Bellows—

Blacksmith, Standard List, 75@75%5%

Blacksmiths'—

Inch.....30 32 34 36 38 40
Each, \$3.30 3.75 4.25 4.80 5.35 6.15
Extra Length:
Each, \$4.00 4.55 5.10 5.60 6.10 7.50

Molders—

Inch.....10 12 14
Doz.....\$3.50 10.00 13.00

Hand—

Inch.....6 7 8 9 10
Doz.....\$4.25 4.50 5.00 5.50 7.75

Bells—Cow—

Ordinary goods.....75@5@75%10%
High grade.....70@10@70%10%5%
Jersey.....75@10%
Texas Star.....50%

Door—

Abbe's Gong.....45%
Barton Gong.....50%
Home, R. & E. Mfg. Co.'s.....55%10%
Lever and Pull, Sargent's.....60@10%10%
Trip Gong.....50%10@50%10%
Yankee Gong.....35%

Hand Bells, Polished, Brass—

60% @ 60%10%

White Metal—

Nickel Plated.....30@50%5%
Swiss.....60@60%7%4%
Cone's Globe Hand Bells.....30%35%
Silver Chime.....35%40%

Miscellaneous—

Farm Bells.....lb. \$4@4%
Steel Alloy Church and School.....50@10@60%5%
American Tube & Stamp's Co. Gong, 75%
Table Call Bells.....30@30%10%

Belting—Rubber—

Agricultural (Low Grade).....75@75%5%
Common Standard.....70@70%10%
Standard.....65@70%
Extra.....60@5@60%10%
High Grade.....50@5@50%10%

Leather—

Extra Heavy, Short Lap.....60@60%5%
Regular Short Lap 60@10@60%10%10%
Standard.....70@70%5%
Light Standard.....70@70%
Cut Leather Lacing.....60@10%
Leather Lacing Sides, per sq. ft. 15c

Bench Stops—See Stops, Bench

Benders and Upsetters, Tire—

Detroit Perfect Tire Bender.....40%
Green River Tire Benders and Upsetters.....50%
Detroit Stoddard's Lightning Tire Upsetters, No. 1, \$4.25; No. 2, \$7.25; No. 3, \$10.50; No. 4, \$16.25; No. 5, \$30.50.

Bicycle Goods—

John S. Long's Son's 1902 list:
Chain.....50%
Parts.....50%
Spokes.....50%
Tubes.....60%

Bits—

Auger, Gimlet, Bit Stock Drills, &c.—See Augers and Bits.

Blocks—Tackle—

Common Wooden.....70@10@75%5%
Hollow Steel Blocks, with Ford's Patent Sheaves.....50%10%
Lane's Patent Automatic Lock and Junior.....30%
Stowell's Novelty, Mal. Iron.....50%10%
Stowell's Self Loading.....60%
See also Machines, Hoisting.

Boards, Stove—

Zinc, Crystal, &c.....30@10@40%10%

Boards, Wash—

See Washboards.

Boils—

Carriage, Machine, &c.—

Common Carriage.....75@10%
Phila. Eagle, \$5.00 list May 24, '99.....80%10%

Bolt Ends, list Feb. 14, '98.....75@10%

Machine with C. & T. Nuts.....75@75%5%

Machine with C. & T. Nuts.....75@75%5%

70@5@.....\$

Door and Shutter—

Cast Iron Barrel, Round Brass Knob:
Inch.....\$ 4 5 6 8
Per doz.....\$0.26 30 39 47 65

Cast Iron Spring Foot:
Inch.....6 8 10
Per doz.....\$1.00 1.25 1.75

Cast Iron Chain, Flat, Japanned:
Inch.....6 8 10
Per doz.....\$0.75 1.05 1.50

Cast Iron Shutter, Brass Knob:
Inch.....6 8 10
Per doz.....\$0.87 1.00 1.00

Wrt Barrel, Jap'd, 75@10@75%10%10%

Wrought Bronzed, 40@5@50%10%

Wrought Flush, B. K., 50@10@60%10%

Wrought Shutter.....40@10@10@60%5%

Wrought Square Neck.....50@50%10%

Wrought Sunk, Flush.....50@50%10%

Ives' Patent Door.....60%

Stove and Plow—

Plow.....65@10@.....\$

Stove.....30@5@30@10@5%

Tire—

Common.....75%4%

Norway Iron.....80%

American Screw Company:
Norway Phila., list Oct. 16, '94.....80%

Eagle Phila., list Oct. 16, '94.....80%4%
Bay State, list Dec. 28, '90.....75%4%
Franklin Moore Co.:
Norway Phila., list Oct. 16, '94.....80%
Eagle Phila., list Oct. 16, '94.....80%4%
Elliott, list Dec. 28, '90.....75%4%
Russell, Burdall & Ward Bolt & Nut Co., Empire, list Dec. 28, '90.....75%4%
Norway Phila., list Oct. '94.....80%
Osborn Nut Co.:
Tire Bolts.....75%4%

Borers, Tap—

Borers Tap, Ring, with Handle:
Inch.....1 1/4 1 3/4 2
Per doz.....\$1.30 5.00 5.75 7.25

Inch.....\$1.4 2 3/4 3 1/2

Per Doz.....\$3.65 11.50

Enterprise Mfg. Co., No. 1, \$1.35; No. 2, \$1.65; No. 3, \$2.50 each.....35%

Boxes, Mitre—

C. E. Jennings & Co.....30%
Langdon.....15%10%
Perfection.....\$ doz. \$30.00
Schatz.....40%

Braces—

Common Ball, American.....\$1.15@1.25
Barber's.....50@10@60%10%
Fray's Genuine Spofford's.....40%
Fray's No. 70 to 130, 81 to 125, 307 to 414.....60%
C. E. Jennings & Co.....50%5%
Mayhew's Ratchet.....40%
Mayhew's Quick Action Hay Patent.....50%
Millers Falls Drill Braces.....25%10%
P. S. & W. Co. Peck's Patent 60@10@65%

Brackets—

Wrought Steel.....80@10@.....\$
Bradley's Wire Shelf:
Full cases.....80@10@10%
Broken cases.....80@10%
Griffin's Pressed Steel.....80%
Griffin's Folding Brackets.....70@10%
Stowell's Cast Shelf.....75%
Stowell's Sink.....50%
Western W. G. Co., Wire.....60@10%

Bright Wire Goods—See Wire and Wire Goods.

Broilers—

Western W. G. Co.....80%

Wire Goods Co.....75@75%10%

Buckets, Well and Fire—

See Pails

Bucks, Saw—

Hoosier.....\$ gro. \$36.00

Bull Rings—See Rings, Bull.

Butts—Brass—

Wrought list Sept., '96.....20@30%

Cast Brass, Tiebout's.....50%

Cast Iron—

Fast Joint, Broad.....50@50%10%

Fast Joint, Narrow.....50@50%10%

Loose Joint.....70@5@70%10%

Loose Pin.....70@5@70%10%

Mayer's Hinges.....70@5@70%10%

Parliament Butts.....70@5@70%10%

Wrought Steel—

Table and Back Flaps.....75%

Narrow and Broad.....75%

Inside Blind.....75%10%

Loose Pin.....75%

Loose Pin, Ball and Steeple Tip.....80%40%

Japanned, Ball Tip Butts, 70@10%

Bronzed Wrt. Nar. and Inside

Blind Butts.....55@10%10%

Cages, Bird—

Hendryx, Brass:
3000, 5000, 1100 series.....5%

1200 series.....33%15%

200, 300, 600 and 800 series.....40%10%

Hendryx Bronze:
700, 800 series.....40%10%

Hendryx Enamelled.....40%10%

Callipers—See Compasses.

Calks, Toe and Heel—

Blunt, 1 prong.....per lb. 4@4%4%

Sharp, 1 prong.....per lb. 4%4%4%

Gautier, Blunt.....40%4%

Gautier, Sharp.....4%4%4%

Perkins, Blunt Toe.....\$ 3.50

Perkins, Sharp Toe.....\$ 4.15

Can Openers—See Openers, Can

Cans, Milk—
 Illinois Pattern, \$1.35 1.45 2.05 each.
 New York Pattern, \$1.50 2.20 2.45 each.
 Baltimore Pattern, \$1.50 2.20 2.45 each.
 Dubuque, \$1.35 1.50 1.75 each.

Cans, Oil—
 Buffalo Family Oil Cans:
 3 5 10 gal.
 \$45.00 60.00 120.00 gro., net

Caps—Perfection

Eley's E. B. 60c
 G. D. per M \$1.35
 F. J. per M \$1.45
 G. E. per M \$1.50
 Munket. per M \$1.65

Primers

Berdan Primers, \$3.00 per M. 80c
 B. L. Caps (Sturtevant) 30c
 All other primers per M. \$1.50 to \$1.60

Cartridges

Blank Cartridges:
 33 C. F., \$5.50 10c
 33 C. F., \$7.00 10c
 33 cal. Rim, \$1.50 10c
 33 cal. Rim, \$1.75 10c
 B. B. Caps, Con. Ball Sngl. \$1.90
 B. B. Caps, Round Ball \$1.45
 Central Fire 25c
 Target and Sporting Rifle 15c
 Primed Shells and Bullets 15c
 Rim Fire Sporting 50c
 Rim Fire Military 15c

Casters

Bed 70c to 70c 10c
 Plate 60c to 60c 10c
 Philadelphia 75c to 75c 10c
 Acme, Ball Bearing 35c
 Boss 70c to 70c 10c
 Ross Anti-Friction 70c to 70c 10c
 Gem (Roller Bearing) 30c
 Martin's Patent (Phoenix) 45c
 Standard Ball Bearing 45c
 Tucker's Patent low list 30c
 Yale (Double Wheel) low list 30c

Cattle Leaders

See Leaders, Cattle.

Chain, Coll

American Coll, Jobbers' Shipments:
 3-16 3/4 5-16 3/4 7-16 3/4 9-16 3/4
 8.00 5.50 4.15 3.75 3.60 3.50 3.45
 5 3/4 7 1/4 1 to 1 1/4 inch.
 3.3 3.35 3.50 3.15 per 100 lb.
 German Coll 60c to 60c 10c

Halters and Ties

Halter Chains 60c to 60c 10c
 German Pattern Halter Chains, list
 July 1, '97 60c to 60c 10c
 Cow Ties 60c to 60c 10c

Trace, Wagon, &c.

Traces, Western Standard, 100 pair
 6 1/2-8, Straight, with ring \$35.50
 6 1/2-8, Straight, with ring \$35.50
 6 1/2-8, Straight, with ring \$35.50
 6 1/2-10, Straight, with ring \$35.50
 Add 2c per pair for Hooks.
 Total Traces 2c per pair higher than
 Straight Link

Trace, Wagon and Pancy Chains

60c to 60c 10c

Miscellaneous

Jack Chain, list July 1, '93:
 Iron 60c to 60c 10c
 Brass 60c to 60c 10c
 Safety Chain 75c to 75c 10c
 Gal. Pump Chain 6 1/4 to 6 1/4 c
 Covert Mfg. Co.
 Breast 40c to 40c 25c
 Halter 40c to 40c 25c
 Heel 40c to 40c 25c
 Rein 40c to 40c 25c
 Stallion 40c to 40c 25c

Covert Saddle Works

Breast 70c
 Halter 70c
 Hold Back 70c
 Rein 70c

Onida Community

Am. Coll and Halters 40c to 40c 50c
 Eureka Coll and Halter 45c to 45c 50c
 Niagara Coll and Halters 45c to 45c 50c
 Niagara Cow Ties 45c to 45c 50c
 Niagara Wire Dog Chains 45c to 45c 50c

Wire Goods Co.

Dog Chain 70c to 70c 10c
 Universal Dog-Linked Chain 50c

Chalk (From Jobbers)

Carpenters' Blue 70c to 70c 40c
 Carpenters' Red 70c to 70c 35c
 Carpenters' White 70c to 70c 30c

Checks, Door

Bardley's 45c
 Columbia 50c to 50c 10c
 Ellipse 60c to 60c 10c

Chests, Tool

American Tool Chest Co.:
 Boys' Chests, with Tools 55c
 Youths' Chests, with Tools 40c
 Gentlemen's Chests, with Tools 30c
 Farmers', Carpenters', etc., Chests,
 with Tools 30c
 Machinists' and Fip's Filters' Chests,
 Empty 30c
 Tool Cabinets 50c
 C. E. Jennings & Co.'s Machinists' Tool
 Chests 33 1/3 to 10c

Chisels

Socket Framing and Firmer
 Standard List 70c to 70c 10c
 Buck Bros. 30c
 Charles Buck 30c
 C. E. Jennings & Co. Socket Firmer
 No. 10 60c
 C. E. Jennings & Co. Socket Framing
 No. 15 70c
 Ohio Tool Co.'s 70c
 Swan's 70c
 L. & J. White 30c to 30c 50c

Tanged

Tanged Primers 40c to 40c 10c
 Buck Bros. 30c
 Charles Buck 30c
 C. E. Jennings & Co. No. 101, 181, 225
 L. & J. White, Tanged 25c

Cold—
 Cold Chisels, good quality, lb. 15c to 15c
 Cold Chisels, fair quality, lb. 11c to 11c
 Cold Chisels, ordinary, lb. 9c to 9c

Chucks

Beach Pat., each \$3.00 35c
 Pratt's Positive Drive 25c
 Empire 25c
 Blacksmiths' 25c

Skinner Patent Chucks

Independent Lathe Chucks 50c
 Universal 50c
 Combination 50c
 Drill Chucks, New Model 30c
 Drill Chucks, Standard 40c
 Drill Chucks, Skinner Patent, 3, 4, 5, 6,
 7, 8 40c

Drill Chucks, Skinner Patent, 3, 4, 5, 6,

7, 8 40c
 Drill Chucks, Positive Drive 30c
 Planer Chucks 25c
 Face Plate Jaws 40c
 Standard Tool Co.:
 Improved Drill Chuck 45c
 Union Mfg. Co.:
 Combination 50c
 Car Drill 35c
 Combination Gearing Scroll 40c
 Gearing Scroll 40c
 Independent 50c
 Independent Steel 40c
 Union Drill 45c
 Universal 50c
 Independent Iron Face Plate Jaws 40c
 Independent Steel Face Plate Jaws 40c
 Westcott Patent Chucks:
 Lathe Chucks 50c
 Little Giant Auxiliary Drill 50c
 Little Giant Double Grip Drill 50c
 Little Giant Drill, Improved 50c
 Onoda Drill 50c
 Scroll Combination Lathe 50c

Clamps

Adjustable, Hammers' 30c to 30c 50c
 Cabinet Sargent's 50c to 50c 10c
 Carriage Makers', P. S. & W. Co. 50c
 Carriage Makers' Sargent's 60c
 Best, Parallel 30c to 30c 10c
 Linemen's Utility Drop Forge & Tool Co. 40c
 Saw Clamps, see Files, Saw Filers.

Cleaners, Drain

Iwan's Champion, Adjustable 55c
 Iwan's Champion, Stationary 45c

Sidewalk

Star Socket, All Steel \$4.05 net
 Star Shank, All Steel \$3.24 net
 W. & C. Shank, All Steel, 7 1/2 in.,
 \$3.00; 8 in., \$3.35.

Cleavers, Butchers'

Foster Bros. 30c
 New Haven Edge Tool Co.'s 50c to 50c 10c
 Fayette R. Plumb 33 1/3 to 33 1/3 10c
 L. & J. White 30c

Clippers

Chicago Flexible Shaft Company:
 94 Chicago Horse \$4.75 to 4.75 10c
 1908 Chicago Horse \$4.75 to 4.75 10c
 24th Century Horse, each \$3.00 30c
 Lightning Belt \$15.00 to 15.00 10c
 Chicago Belt \$30.00 to 30.00 10c
 Stewart's Patent Sheep \$12.75 to 12.75 20c
 Finger Nail Clippers 20c
 Smith & Hemenway Co. doz. net \$2.00

Clips, Axle

Eagle 5-16 and 3/4 inch 75c to 75c 10c
 Norway, 5-16 and 3/4 inch 60c to 60c 10c

Cloth and Netting, Wire

—See Wire, etc.

Cocks, Brass

Hardware list:
 Compression, Plain Blbs, Globe,
 Kerosene, Racking, etc. Cocks.
 70c to 70c 75c

Coffee Mills—See Mills, Coffee**Collars, Dog**

Nickel Chain, Walter B. Stevens &
 Son's list 40c
 Leather, Walter B. Stevens & Son's list 40c

Combs, Curry

Metal Stamping Co. 40c
 Covert's Saddlery Works 60c to 60c 10c

Compasses, Dividers, &c.

Ordinary Goods 75c to 75c 10c
 Benis & Call Hdw. & Tool Co.:
 Dividers 65c
 Callipers, Inside or Outside 65c
 Callipers, Wing 60c to 60c 50c
 Compasses 50c

Conductor Pipe, Galva

L. C. L. to Dealers:
 Territory, Nested, Not nested,
 A. Eastern, 75c to 75c 75c
 B. Eastern, 75c to 75c 75c
 Central 75c
 Southern 70c to 70c 50c
 S. Western, 70c to 70c 75c
 Terms, 60 days, 2 1/2 cash, 10 days. Factory
 shipments generally delivered.

Coolers, Water

Gal, each, 2 3 4 6 8
 Labrador \$1.20 \$1.50 \$1.80 \$2.10 \$2.70
 Gal 2 3 4 6 8
 Iceland, ea. \$1.80 \$2.10 \$2.40 \$3.00
 Gal 2 3 4 6 8
 Galv. Lined Ea. \$1.35 \$2.00 \$2.2 \$2.90 \$3.90
 Gal 2 3 4 6 8
 Galv. Lined side handles
 Gal. 2 3 4 6 8
 Each, \$1.35 \$2.15 \$2.40 \$2.90 \$4.15, 25c

Coopers' Tools

See Tools, Coopers'.
Cord—Sash
 Braided, Drab lb. 35c
 Braided, White, Com. lb. \$1.25 to 1.25 25c
 Cable Laid Italian, lb. A, 18c; B, 16c
 Common India lb. 10c to 10c 40c
 Cotton Sash Cord, Twisted 11c to 11c 10c
 Patent Russia lb. 10c to 10c 40c
 Cable Laid Russia lb. 10c to 10c 40c
 India Hemp, Braided lb. 10c to 10c 40c
 India Hemp, Twisted lb. 10c to 10c 40c
 Patent India, Twisted lb. 10c to 10c 40c

Anniston Cordage Co.: Braided Cotton.
 Old Glory, Nos. 7 to 12 \$2.25 c
 Anniston, Nos. 7 to 12 \$2.25 c
 Old Colony, Nos. 7 to 12 \$2.25 c
 Anniston, Nos. 7 to 12 \$2.25 c
 Pearl Braided, cotton, No. 6, 7, 8, 9, 10,
 Nos. 7 to 12 \$2.25 c
 Eddystone Braided, Nos. 7, 8, 9 and 10 \$2.25 c
 Eddystone Braided Cotton, No. 6, 7, 8, 9, 10,
 Nos. 7 to 12 \$2.25 c
 Harmony Cable Laid Italian, No. 7 to
 10 \$2.25 c
 Feenies:
 Cable Laid Italian 16c
 Cable Laid Russian 14c
 Cable Laid India 12c
 Braided India 18c
 Harmon, Nos. 7 to 12:
 Braided, Drab Cotton \$2.30 c
 Braided, Italian Hemp \$2.30 c
 Braided, Linen \$2.30 c
 Braided, White Cotton or Spot, \$2.30 c
 Massachusetts, White \$2.30 c
 Massachusetts, Drab \$2.30 c
 Phoenix, White, No. 7 to 12 \$2.30 c
 No. 6 cords, 12 extra.

Wire, Picture

List Oct. '00, 85c to 10c 10c 10c 10c 10c 10c
 Hendryx Standard Wire Picture Cord 50c to 50c 10c

Cradles

Grain 40c to 40c 12 1/2 c
Crayons
 White Round Crayons, gross, 5 1/2 c to 5 1/2 c
 Cases, 100 gro., \$4.00, at factory.
 D. M. Steward Mfg. Co.:
 Jumbo Crayons gr. \$3.50
 Metal Workers' Crayons, gr. \$3.50
 Soapstone Pencils, round, flat
 or square gr. \$1.50
 Rolling Mill Crayons gr. \$2.50
 Railroad Crayons (compo-
 sition) gr. \$2.00

Zelicker's Lumber

Red, Blue, Green \$2.00 gro. \$4.00
 Black \$2.00 gro. \$4.00
 See also Chalk.

Crooks, Shepherds'

Fort Madison, Heavy \$7.00
 Fort Madison, Light \$6.50
Crow Bars—See Bars, Crow.

Cultivators

Victor Garden 50c
Intercut, Table
 No. 12 Medium Knives, list \$2.50
 Star, Eagle, Rogers & Hamilton and
 Anchor \$2.50
 Wm. Rogers & Son \$2.50

Cutters—Glass

H. H. Mayhew Co. 40c
 Red Devil 40c
 Smith & Hemenway Co. 40c
 Woodward 40c

Meat and Food

American 30c
 Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822,

Forks—

Base Discounts Aug. 1, 1899, list:

Hay, 3 tine.....	50¢10¢55
Boys' & Fish, 2 tine.....	50¢10¢55
Hay & Boys', 3 tine.....	60¢55
Hay & Boys', 4 tine.....	60¢55
Champion Hay.....	60¢55
Hay & Header, long 3 tine.....	65¢
Header, 4 tine.....	65¢
Barley, 4 & 5 tine, Steel.....	60¢20¢
Manure, 4 tine.....	60¢15¢25¢
Manure, 5 and 6 tine.....	60¢25¢
Spading.....	70¢25¢
Potato Digger, 6 tine.....	80¢10¢
Sugar Beet.....	40¢10¢
Coke & Coal.....	40¢10¢
Heavy Mill & Street.....	65¢
Iowa Dig-Eay Potato.....	60¢10¢
Victor, Hay.....	60¢15¢25¢
Victor, Manure.....	60¢10¢
Victor, Header.....	60¢10¢
Champion Header.....	60¢10¢
Champion Header.....	60¢10¢
Champion Header.....	60¢10¢
Columbia, Hay.....	60¢10¢
Columbia, Manure.....	60¢10¢
Hawkeye Wood Barley.....	70¢12¢
W. & C. Potato Digger.....	60¢10¢
Acme Hay.....	60¢10¢
Acme Manure, 4 tine.....	60¢10¢
Dakota Header.....	60¢10¢
Jackson Steel Barley.....	60¢10¢
Kansas Header.....	60¢10¢
W. & C. Favorite Wood Barley.....	60¢10¢

Frames—Saw—

White, Straight Bar, per doz.	75¢80¢
Red, Straight Bar, per doz.	\$1.00\$1.25
Red, Double Brace, per doz.	\$1.10\$1.50

Freezers Ice Cream—

Qt.....	1 3 5 7 9
Each.....	\$1.25 \$1.60 \$1.90 \$2.20 \$2.50

Fruit and Jelly Presses—
See Presses, Fruit and Jelly.

Fry Pans—See Pans, Fry.

Fuse—
Per 1000 Feet.

Hemp.....	\$2.75
Cotton.....	3.50
Waterproof Single Taped.....	3.65
Waterproof Double Taped.....	4.40
Waterproof Triple Taped.....	5.15

Gates Molasses and Oil—

Stebbins' Pattern.....	50¢10¢10¢10¢55
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Gauges—
Marking, Mortise, etc.....
50¢10¢50¢10¢10¢55

Chapin-Stephens Co.:
Marking, Mortise, etc.....50¢10¢50¢10¢10¢55
Scholl's Patent.....50¢10¢50¢10¢10¢55
Door Hangers.....50¢10¢50¢10¢10¢55
Stanley K. & L. Co.'s Butt & Babbet Gauge.....50¢10¢50¢10¢10¢55
Wire, Brown & Sharpe's.....35¢
Wire, Morse's.....35¢
Wire P. S. & W. Co.....30¢10¢

Gimlets—Single Cut—
Nail, Metal, Assorted, gro.....\$1.00\$1.50
Spike, Metal, Assorted, gro.....\$3.00\$3.50
Nail, Wood Handled, Assorted, gro.....\$1.75\$2.00
Spike, Wood Handled, Assorted, gro.....\$4.50\$5.00

Class, American Window—
See Trade Report

Classes, Level—
Chapin-Stephens Co.....50¢10¢50¢10¢10¢55

Glue—Liquid Fish—
Bottles or Cans, with Brush.....50¢10¢50¢10¢10¢55
Cans (14 pts., pts., qts., ½ gal., gal.).....50¢10¢50¢10¢10¢55
International Glue Co. (Marine).....50¢10¢50¢10¢10¢55

Grease Axle—
Common Grade.....gro. \$1.10\$1.50
Dixon's Everlasting.....10¢10¢10¢10¢10¢55
Dixon's Everlasting, in box, 1 doz. 1.....\$1.40; 2 doz. \$2.00

Grips, Nipple—
Perfect Nipple Grips.....40¢10¢25¢

Gridles, Soapstone—
Pike Mfg. Co.....33¢40¢33¢40¢10¢

Grindstones—
Bicycle Emery Grinder.....65¢50¢
Bicycle Grindstones, each.....\$2.50\$3.00
Pike Mfg. Co.:
Improved Family Grindstones.....per inch, per doz.....\$2.00 35¢45¢
Pike Mower Knife and Tool.....\$1.00
Velox Ball Bearing, mounted, Angle Iron Frames.....each, \$3.23

Halters and Ties—

Covert Mfg. Co.:
Web.....40¢25¢
Jute Rope.....40¢45¢
Sisal Rope.....30¢
Cotton Rope.....45¢45¢
Hemp Rope.....45¢45¢
Covert's Saddlery Works:
Web and Leather Halters.....70¢
Jute and Manila Rope Halters.....70¢
Sisal Rope Halters.....70¢
Jute, Manila and Cotton Rope Ties.....70¢
Sisal Rope Ties.....60¢10¢

Hammers—

Handled Hammers—
Beller's Machinists'.....40¢10¢40¢10¢10¢
Beller's Farmers'.....40¢10¢40¢10¢10¢
Magnetic Tack, No. 1, 3, 3, \$1.25, \$1.50, \$1.75.....40¢10¢10¢10¢10¢
Peck, Stow & Wilcox.....40¢10¢40¢10¢40¢
Fayette R. Plumb:
Plumb, A. E. Nail, 3 ½ & 7 ½ & 3 ½ & 10 & 7 ½ & Engineers' and B. S. Hand.....50¢7 ½ & 50¢10¢7 ½ & 50¢
Machinists' Hammer, 50 & 50 & 30 & 10 & 50 & Riveting and Tinnars'.....40¢25¢40¢10¢25¢
Sargent's C. S. New List.....40¢
Heavy Hammers and Sledges—
Under 5 lb.....lb 50¢ 30¢10¢20¢
5 to 10 lb.....lb 50¢ 30¢10¢20¢
Over 10 lb.....lb 50¢ 30¢10¢20¢
Wilkinson's Smith's.....94¢10¢10¢

Handles—

Agricultural Tool Handles—
Axe, Pick, etc.....50¢50¢55
Hoe, Rake, etc.....50¢50¢55
Fork, Shovel, Spade, etc.....50¢50¢55
Long Handles.....50¢50¢55
D Handles.....40¢

Cross-Cut Saw Handles—

Atkins'.....40¢55¢
Champion.....45¢45¢10¢
Dixon's.....50¢

Mechanics' Tool Handle 75

Auger, assorted.....gro. \$1.50\$1.85
Bradawl.....\$1.00\$1.35
Chisel Handles:
Apple Tanged Firmer, gro. ass'd.....\$1.50\$1.65
Hickory Tanged Firmer, gro. ass'd.....\$1.15\$1.40
Apple Socket Firmer, gro. ass'd.....\$1.15\$1.35
Hickory Socket Firmer, gro. ass'd.....\$1.15\$1.35
Hickory Socket Framing, gro. ass'd.....\$1.00\$1.15
File, assorted.....gro. \$1.00\$1.15
Hammer, Hatchet, Axe, etc.....50¢
Hand Saw, Varished, doz.....50¢85¢
Not Varished.....65¢75¢
Plane Handles:
Jack doz. 50¢; Jack Bolted.....75¢
Fore, doz.....45¢; Fore, Bolted 90¢
Chapin-Stephens Co.:
Caring Tool.....40¢40¢10¢
Chisel.....40¢40¢10¢
File and Awl.....40¢40¢10¢
Saw and Plane.....40¢40¢10¢
Screw Driver.....40¢40¢10¢
Millers Falls Adj. and Hatchet Auger Handle, Simplicity File Handle.....\$1.00
Nicholson Simplicity File Handle.....\$0.85\$1.50

Hangers—

NOTE.—Barn Door Hangers are generally quoted per pair, without track, and Parlor Door Hangers per double set with track, etc.

Barn Door, New Pattern, Round Groove, Regular:
Inch.....3 5 6 8
Single Doz.....\$0.90 1.25 1.60 1.95 2.50
Barn Door, New England Pattern, Check Back, Regular:
Inch.....3 5 6 8
Single Doz.....\$1.30 1.85 2.50 3.00

Alth Mfg. Co.
Reliable No. 1.....per. doz. \$3.00
Reliable No. 2.....per. doz. \$3.50

Chicago Spring Butt Co.:
Friction.....25¢
Oscillating.....35¢
Big Twin.....35¢
Chisholm & Moore Mfg. Co.:
Baggage Car Door.....50¢
Elevator.....30¢
Railroad.....30¢
Crane & Carrier Mfg. Co.:
Lock & Key.....80¢10¢45¢
Roller Bearing.....70¢55¢
Griffin Mfg. Co.:
Solid Axle, No. 10, \$12.00.....75¢
Roller Bearing, No. 11, \$15.00.....75¢
Roller Bearing, Ex. Hy., No. 24.....75¢
Hinged Hangers.....50¢10¢

Lane Bros. Co.:
Parlor, Ball Bearing.....44.00
Parlor, Standard.....33.15
Parlor, No. 105.....32.85
Parlor, New Model.....32.50
Parlor, New Champion.....32.25
Barn Door, Standard.....60¢10¢25¢
Hinged.....net \$5.40
Covered.....60¢10¢
Special.....70¢55¢

Lawrence Bros.:
Advance.....60¢10¢
Cleveland.....70¢55¢
Cutter, No. 75.....60¢
Crown.....60¢10¢
Easy Parlor Door, Dbl. Sets, \$2.50.....Single Sets, \$1.25

McKinney Mfg. Co.:
No. 1, Special, \$15.....60¢10¢
No. 2, Standard, \$18.....60¢10¢
Hinged Hangers, \$10.....50¢
Meyers' Stays Hangers.....50¢
Richards Mfg. Co.:
Pioneer Wood Track No. 8.....\$2.15
Ball R'r'g Steel Track No. 10.....\$2.40
Roller B'r'g Steel Track No. 12.....\$2.50
Ball R'r'g Steel Track No. 18.....\$2.40
Roller B'r'g Steel Track No. 14.....\$2.30
Horo. Adjustable Track No. 19.....\$2.50
Adjustable Track Tandem Trolley Track No. 16.....30¢
Sail Steel Track No. 8.....\$1.40
Auto Adjustable Track No. 22, 40¢10¢
Trolley B. D. No. 17.....\$1.40
Trolley F. D. No. 120.....\$2.35
Trolley F. D. No. 121.....\$2.45
Trolley F. D. No. 151.....\$2.60
Safety Underwriters F. D. No. 101, 12, 25, Tandem No. 44.....70¢55¢
Trolley F. D. No. 121.....70¢55¢
Palace, Adjustable Track No. 13.....\$1.35
Royal, Adjustable Track No. 12.....\$1.25
Ives Wood Track No. 1.....\$2.15
Trolley B. D. No. 39.....\$1.35
Trolley B. D. No. 24.....\$1.40
Trolley B. D. No. 27.....\$1.35
Trolley B. D. No. 28.....\$1.60
Roller Bearings Nos. 20, 40, 41, 45, 41.....70¢55¢
Anti-friction No. 62.....60¢10¢
Hinged Tandem No. 48.....60¢
Folding Door B. B. Swivel No. 1, 185, 30¢
Safety Door Hanger.....60¢
Storm King Safety.....60¢
U. S. Standard Hinge.....60¢
Stowell Mfg. and Foundry Co.:
Acme Parlor Ball Bearing.....40¢
Ajax Hinge Door.....40¢

Apex Parlor Door.....50¢10¢55
Atlas.....40¢
Baggage Car Door.....50¢
Climax Anti-Friction.....50¢10¢
Elevator.....40¢
Express.....30¢
Freight Car Door.....60¢
Interior.....40¢10¢
Lundy Parlor Door.....50¢10¢
Magic.....60¢
Matchless.....60¢10¢
Nansen.....70¢55¢
Parlor Door.....50¢10¢
Railroad.....50¢10¢
Hinge Door.....50¢10¢
Street Car Door.....50¢
Steel, Nos. 300, 404, 500.....50¢10¢
Underwriters' Fire Door.....40¢
Wild West Warehouse Door.....50¢
Zeeb for Wood Track.....50¢10¢
A. L. Swett Iron Works:
Eagle.....80¢10¢
Hilo.....50¢10¢
Perfection.....80¢
Pilot.....60¢
Taylor & Boggess Fy Co.'s Kidder's Parlor Bearing.....50¢15¢10¢55¢
Wilcox Mfg. Co.:
Bike Roller Bearing.....80¢10¢
C. J. Roller Bearing.....80¢10¢
Cycle Ball Bearing.....50¢
Dwarf Ball Bearing.....40¢
Ives, Wood Track.....60¢10¢
L. P. Roller Bearing.....60¢10¢55¢
New Era Roller Bearing.....50¢10¢
O. K. Roller Bearing.....60¢10¢55¢
Prindle, Wood Track.....60¢
Richards' Wood Track.....60¢
Richards' Steel Track.....50¢10¢
Spencer Roller Bearing.....50¢10¢
Tandem Nos. 1 and 2.....40¢
Underwriters' Roller Bearing.....40¢
Velvet.....50¢
Wilcox Auditorium Ball Bearing.....30¢
Wilcox Barn Trolley No. 123.....40¢
Wilcox Elev. Door, Nos. 11 and 12, 30¢
Wilcox Elev. Door, No. 122.....40¢
Wilcox Fire Trolley, Roller Bearing.....30¢
Wilcox Le Roy Noiseless Ball Bearing.....40¢
Wilcox New Century.....50¢10¢10¢
Wilcox O. K. Steel Track.....50¢
Wilcox O. K. Trolley.....50¢
Wilcox Trolley Ball Bearing.....40¢
Wilcox Wideman Narrow Gauge, Ball Bearing.....40¢
For Track, see Rail

Hangers, Garment—
Fullman Trousers, No. 1, 2 gro.....\$9.00
Fullman Trousers, No. 4, 2 gro.....\$4.00
Victor Folding 2 gro.....\$9.00
Westers, W. G. Co.....70¢10¢

Gate—

Meyers' Patent Gate Hangers, 2 doz.....net. 4.30

Hasps—

McKinney's Perfect Hasp, 2 doz.....30¢

Hatchets—

Regular list.....25¢10¢30¢40¢55¢

Heaters Carriage—

Clark, No. 5, \$1.75; No. 5B, \$2.00; No. 3, 2.25; No. 3D, \$2.75; No. 7B, \$3.00; No. 3E, \$3.25; No. 1, \$3.50.....15¢
Clark Coal, \$0.75 2 doz.....10¢

Hinges—**Blind and Shutter Hinges—**

Surface Gravity Locking Blind: (Victor; National; 1885 O. P. Niagara; Clark's O. P.; Clark's Tip; Buffalo.)
No.....1 3 5
Doz. pair.....\$0.85 1.75 3.50

Mortise Shutter: (L. & P. O. S., Dixie, etc.)

No.....1 1 ½ 2 3 4
Doz. pair.....\$0.70 .65 .60 .55

Mortise Reversible Shutter, (Buffalo, etc.)

No.....1 1 ½ 2
Doz. pair.....\$0.75 1.75 .65

North's Automatic Blind Fixtures, No. 2, for Wood, \$9.00; No. 3, for Brick, \$11.50.....70¢75¢**Parker.....70¢75¢****Reading's Gravity.....80¢****Sargent's, Nos. 1, 3, 5, 11 & 15.....75¢****Stanley's Steel Gravity Blind Hinges, 2 doz. sets, without screws, \$4.50 with screws, \$1.30****Wrightville Hardware Co.:****O. S., Lull & Porter.....75¢55¢****Acme, Lull & Porter.....75¢****Queen City Hardware Co.: 75¢****Shepard's Noiseless, Nos. 40, 60, 80, 90.....75¢****Niagara, Gravity Locking, Nos. 1, 3 & 5.....75¢****1908, Old Pat'n, Nos. 1, 3 & 5.....75¢****Pioneer, Nos. 100, 45 & 54.....75¢****Buffalo Gravity Locking, Nos. 1, 3 & 5.....75¢****Shepard's Double Locking, Nos. 20 & 25.....70¢****Champion Gravity Locking, No. 75.....75¢****Steamboat Gravity Locking, No. 10.....75¢****Pioneer, Nos. 100, 45 & 54.....75¢****Empire, Nos. 101 & 103.....70¢****W. H. Co.'s Mortise Gravity Locking, No. 2.....60¢****Gate Hinges—****Clark's or Shepard's—Doz. sets:**

No.....1 2 3
Hinges with Latches.....\$2.00 2.75 5.00
Hinges only.....\$1.50 2.05 3.90
Latches only.....70 .70 .35

New England:**With Latch.....doz.....\$2.00****Without Latch.....doz.....\$1.60****Reversible Self-Closing:****With Latch.....doz.....\$1.75****Without Latch.....doz.....\$1.35****Western:****With Latch.....doz.....\$1.75****Without Latch.....doz.....\$1.75****Wrightville Hardware Co.:****Shepard's or Clark's, doz. sets, No. 1 2 3****Hinges with Latches.....\$2.00 2.75 5.00****Hinges only.....1.40 2.05 3.90****Latches only.....70 .70 1.35****Spring Hinges—****Holdback Cast Iron gro.....\$9.00\$9.50****Non-Holdback, Cast Iron.....gro. \$9.00\$9.50**

J. Bardsley
Bardsley's Non-Checking Mortise Floor Hinges.....45¢
Bardsley's Patent Checking.....10¢
Bommer Bros.:
Bommer Ball Spring Floor Hinges.....40¢
Bommer Pivot.....40¢
Bommer Spring Hinges.....40¢
Chicago Spring Butt Co.:
Chicago Spring Hinges.....25¢
Triple End Spring Hinges.....50¢
Chicago (Ball Bearing) Floor Hinge.....50¢
Garden City Engine House.....25¢
Kane's Saloon Door.....25¢
Columbian Hdw. Co.:
Acme, Wrt. Steel.....30¢
Acme, Brass.....35¢
American.....30¢
Columbia, No. 14.....2 gr. \$9.00
Columbia, No. 18.....2 gr. \$25.00
Columbia, Adjustable No. 7.....\$12.00
Gem, new list.....30¢
Clover Leaf.....2 gr. \$13.50
Oxford, new list.....30¢
Lawson Mfg. Co.:
Matchless.....45¢
Matchless.....45¢
Richards Mfg. Co.:
Superior Double Acting Floor Hinges.....40¢
Shelby Spring Hinge Co.:
Chief Ball Bearing Floor Hinge.....30¢
Ohio Detachable Screen Door Hinge.....2 gr. \$12.00

The Stover Mfg. Co.:**Ideal, No. 16, Detachable, 2 gr. \$12.50****Ideal, No. 4.....2 gr. \$9.00****New Idea No. 1.....2 gr. \$9.00****New Idea, Double Acting.....45¢****New Idea Floor.....45¢****Van Wagener:****Ball Bearing.....25¢****No. 77 Sh's Steel Holdbk'.....2 gr. \$9.00****Wrought Iron Hinges—****Strap and T Hinges, etc., list Mar. 15, 1901:****Light Strap Hinges.....30¢65¢****Heavy Strap Hinges 80¢10¢10¢****Light T Hinges.....75¢10¢55¢****Heavy T Hinges.....75¢55¢****Extra Heavy T Hinges.....80¢65¢****Hinge Hasps.....70¢****Cor. Heavy Strap.....50¢60¢10¢****Cor. Ex. Heavy T.....80¢20¢****Screw Hook 6 to 12 in.....lb. \$3.40****And Strap, 12 to 20 in.....lb. 3 c****Screw Hook and Eye:****¾ to 1 inch.....lb. 6 c****1 inch.....lb. 7 c****1 ½ inch.....lb. 9 c****Mitchell's S.....****Covert Mfg. Co. Stall Hitchers.....35¢****Hods, Coal—****15 16 17 18 inch.****Galv. Open.....\$2.50 2.75 3.00 3.25 3.50 3.75 4.00****Jap. Open.....\$2.00 2.25 2.50 2.75 3.00 3.25 3.50 3.75 4.00****Galv. Fun'el.....\$3.50 3.75 4.00 4.25 4.50 4.75 5.00 5.25 5.50****Jap. Funnel.....\$3.00 3.25 3.50 3.75 4.00 4.25 4.50 4.75 5.00****Masons, Etc.—****Cleveland Wire Spring Co.:****Steel Mortar.....each \$1.45****Steel Brick.....each \$1.10****Hoes—Eye—****Scovill and Oval Pattern.....60¢10¢60¢10¢10¢****Grub, list Feb. 23, 1899.....10¢10¢10¢55¢****D. & H. Scovill.....75¢****Handled—****Aug. 1, 1899, List:****Field and Garden.....70¢10¢****Smith's Patent.....50¢****Meadow & Rhode Island.....75¢**

Wire Goods Co.:

Ace...	004105
Chief...	70
Crowd...	70105
Claw...	70105
V. Brace...	70105
Car Hammer...	70105

Wrought Iron

Box, 6 in., per doz.	\$1.00; 8 in., \$1.25;
10 in., \$2.50.	
Cotton...	dos. \$1.05@1.25
Wrought Staples, Hooks, &c.	See Wrought Goods.

Miscellaneous

Hooks, Bench, see Stops, Bench.	
Bush, Light, doz.	\$5.50; Medium, \$6.00; Heavy, \$6.50
Grass...	Nos. 1 1 1 1 1 1 1 1 1 1
Best...	\$1.50 1.25 2.00
Common...	\$1.30 1.50 1.40 1.60
Potato and Manure...	60¢165
Wholesale...	lb. 54¢165
Hooks and Eyes...	60¢10¢10¢70%
Malleable Iron...	70¢5¢70¢105
Covert Mfg. Co. Gate and Scuttle Hooks...	
Covert Saddlery Works' Self Looking Gate and Door Hooks...	60¢
Ft. Madison Cut-Edge Corn Hooks...	70¢
Bench Hooks—See Bench Stops.	
Corn Hooks—See Knives, Corns.	

Horse Nails—See Nails, Horse

Horse Shoes—See Shoes, Horse

Hose Rubber

Competition...	ft. 4 1/2 5 0
3-ply Standard...	ft. 7 1/2 7 0
4-ply Standard...	ft. 9 1/2 9 0
5-ply extra...	ft. 10 1/2 10 0
6-ply extra...	ft. 11 1/2 11 0
Cotton Garden, 1/2 in., coupled...	ft. 8 1/2 8 0
Low Grade...	ft. 8 1/2 8 0
Fair quality...	ft. 8 1/2 8 0

Irons—Sad—

From 1 to 10...	lb. 3 1/2 3 0
B. B. Sad Irons...	lb. 3 1/2 3 0
Chinese Laundry...	lb. 1 1/2 1 0
Chinese Sad...	lb. 1 1/2 1 0
Mrs. Potts, cents per set:	
Nos...	50 55 60 65
Jap'd Tops...	62 67 72 77
Tind Tops...	65 70 75 80
New England Pressing, lb.	3 1/2 3 0

Pinking

Soldering...	dos. 50¢100¢
Soldering Coppers 1/2 and 3/4...	19¢20¢
1 1/2 and 2...	21¢22¢

Jacks Wagon

Covert Mfg. Co.:	
Auto Sore...	30¢45¢
Steel...	45¢65¢
Covert's Saddlery Works:	
Delay...	60¢105
Victor...	60%
Lockport...	50%
Lane & Steel...	60¢105
Richards' Tiger Steel, No. 130...	40%

Kettles

Brass, Spun, Plain...	80¢155
Enamelled and Cast Iron—See Ware, Hollow.	

Knives

Butcher, Kitchen, &c.	
Poster Bros' Butcher, &c.	30%
Smith & Hemenway Co.	40¢105
Wilkinson Shear & Cutlery Co.	50%
Hay and Straw—See Hay Knives.	

Corn

Withington Acme...	dos. \$2.55; Dent, \$2.75; Adj. Serrated, \$2.30; Serrated, \$2.10; Yankee No. 1, \$1.50; Yankee No. 2, \$1.15.
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Drawing

Standard List...	70¢100¢70¢10¢105
O. E. Jennings & Co. Nos. 45, 46...	60%
Jennings & Griffin, Nos. 41, 43...	60%
Ohio Tool Co.'s...	70%
Swan's...	70¢105
Watrous...	105
L. & J. White...	20¢25¢35%

Hay and Straw

Iwan's Sickle Edge...	dos. \$9.50
Iwan's Serrated...	dos. \$10.00

Mincing

Buffalo...	gro. \$12.00
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Miscellaneous

Furriers'...	dos. \$5.00@3.25
Worstenholms'...	dos. \$5.00@3.25

Knobs

Base...	2 1/2 in. Birch, or Maple, Rubber Tip, gro. \$1.10@1.15
Carriage, Jap. all sizes, gro.	40¢105
Door, Mineral...	dos. 65¢70¢
Door, For Jap'd...	dos. 70¢75¢
Door, For Nickel...	dos. \$2.05@2.15
Bardley's Wood Door, Shutter, &c.	15%
Picture, Sargent's...	60¢105

Lacing Leather

See Belting Leather.	
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Ladders, Store Etc.

Lane's Store...	25%
Myers Noiseless Store Ladders...	25%
Richards Mfg. Co.:	
Improved Noiseless, No. 112...	40%
Climax Self, No. 113...	40%
Trolley, No. 110...	40%

Ladies' Melting

L. & G. Mfg. Co., Low List...	25%
P. S. & Co.	80%
Reading...	80%
Sargent's...	80%

Lamp Glass

Regular Tubular No. 0, doz.	\$1.35@1.75
Lift Tubular, No. 0, doz.	\$1.75@2.25
Hinge Tubular, No. 0, doz.	\$1.75@2.25
Other Styles...	10¢10¢10¢105

Bull's Eye Police

No. 1, 3/4 in.	\$1.50@2.75
No. 2, 3 in.	\$2.75@3.00

Lasts and Stands Shoe

Stowell's Atlas, Malleable Iron...	20%
Stowell's Badger, Cast Iron...	20%

Latches—Thumb

Roggin's Latches, with screw, doz.	\$1.50@1.00
Richards' Bull Dog, Heavy, No. 125...	40%

Richards' Trump, No. 127

Leaders Cattle—	
Small...	dos. 55¢; large, 60¢
Covert Mfg. Co.	30%

Lifters, Transom

R. & L.	33¢45
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Lines

Wire Clothes, Nos...	15 19 30
100 feet...	\$2.50 1.00 1.65
75 feet...	\$1.80 1.00 1.30

Samson Cordage Works:

Silver Lake Braided Chalk, No. 0 to 3...	105
No. 1, \$6.50; No. 2, \$7.00; No. 3, \$7.50	

Masons' Lines, Shade Cord, &c.: White	
Cotton, No. 3/4, \$1.50; No. 4, \$2.00; No. 4 1/2, \$2.50; Colors, No. 3/4, \$1.75; No. 4, \$2.25; No. 4 1/2, \$2.75; Lines, No. 3, \$2.50; No. 4, \$3.50; No. 4 1/2, \$4.50	

Tent and Awning Lines: No. 5, White	
Cotton, \$7.50; Drab Cotton, \$8.50; 20% Clothes Lines, White Cotton, \$2.75; 30 ft., \$3.25; 70 ft., \$3.75; 100 ft., \$4.25; 120 ft., \$4.75; 150 ft., \$5.25	

Anniston Waterproof Clothes, 50 ft., 70 ft., \$4.00; 100 ft., \$4.50; 150 ft., \$5.00; Air Line \$32.00; Acme, \$17.00; Alabama, \$15.00; Empire, \$14.00; Advance, \$13.50; Orile, \$13.00; Albermarle, \$13.50; Kollpae, \$12.50; Chicago, \$11.00; Standard, \$10.00; Columbia, \$9.50; Allston, \$12.50; Calhoun, \$11.00.	
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Locks—Cabinet

Cabinet Locks...	33¢45¢75¢
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Door Locks, Latches, &c.

Reading Hardware Co.	45¢20%
R. & E. Mfg. Co.	40%
Sargent & Co.	40¢105
Stowell's Steel Door Latches...	50%

Elevator

Stowell's...	50%
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Padilocks

Wrought Iron...	75¢105¢30¢5%
R. & E. Mfg. Co. Wrt. Steel and Brass...	70¢75¢105

Sash, &c.

Ives' Patent...	
Bronze and Brass...	60¢45
Crescents...	50¢105
Window Ventilating...	40%
Robison Patent Ventilating Sash	
Look...	40%
Wrought Bronze and Brass...	50%
Wrought Steel...	50%
Pullman Patent Ventilating Lock...	25%
Reading...	60%

Machines—Boring

Com. Upright, Without Augers...	\$2.00
Com. Angular, Without Augers...	\$2.25

R. & E. Mfg. Co., Upright Augers

Improved No. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	
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Jennings' Nos. 1 and 4

Miller's Falls...	5 75
Snell's, Rice's Pat. 2.50	2 75

Corking

Retainer Invaluable Hand Power...	dos. \$48.00
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Fence—

Williams Fence Machines...	each, \$3.50
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Hoisting

Moore's Anti-Friction Differential Pulley Block...	30%
Moore's Hand Hoist, with Lock Brass...	30%

Ice Cutting

Chandler's...	12 1/2%
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Washing

Boss, Washing Machine Co. Per doz.	
Champion Rotary Sander No. 1...	\$4.00
Standard Champion No. 1...	\$4.00
Standard Perfection...	\$3.00
Clint Square Western...	\$3.00
Unedea American, Round...	\$2.00

Mallets

Hickory...	45¢50%
Lignumvitae...	45¢50%
Tinners', Hickory and Applewood, doz.	50¢55¢

Mashers, Vegetable

Weston, W. G. Co., Potato...	60¢105
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Mats—Door

Elastic Steel (W. G. Co.)...	10%
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Mattocks

See Picks and Mattocks.	
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Milk Cans—See Cans, Milk

Enterprise Mfg. Co.	25¢30%
National list Jan. 1, 1904...	30%
Parker's Columbia Victoria...	60¢105
Parker's Box and Side...	60¢105
Swift, Lane Bros Co.	30%

Mowers, Lawn

Net prices are generally quoted.	
Cheap...	all sizes, \$1.75@2.00
Good...	all sizes, \$2.25@2.50
10 12 14 16 in.	
High Grade 4.25 4.50 4.75 5.00	
Continental...	60¢65
Great American...	70%
Great American Ball Bearing, new list...	70%
Quaker City...	60¢65
Pennsylvania, Jr. Ball Bearings...	60%
Pennsylvania Golf...	30%
Pennsylvania Horse...	30%
Pennsylvania Pony...	30%
Philadelphia...	70¢25%
Style A, all Steel...	60¢65
Style E, High Wheel...	70¢105
Drexel and Gold Coin, low list...	40¢25%

Nails

Cut and Wire. See Trade Report.	
Wire Nails and Brads, Papered.	
List July 30, 1899...	85¢110¢105

Hungarian, Finishing, Upholsterers', &c. See Tacks.

Horse

Nos. 6 7 8 9 10	
Anchor...	23 21 20 19 18
Champion...	26 25 24 23 22
Coleman...	13 12 11 10 9

Nos. 6 7 8 9 10

New Haven 23 21 20 19 18	40¢45
Putnam...	23 21 20 19 18
New Putnam 19 18 17 16 15	30¢105
Western, per lb.	34¢
Jobbers' special brands, per lb.	34¢54¢

Picture

Brass Head...	1 1/2 2 3 1/2 3 1/2 in.
Por. Head...	1.10 1.10 1.10 1.10 gro.

Nippers, See Pliers and Nippers.

Cold Punched: Of list.	
Mfrs. or U. S. Standard.	
Square, plain...	\$5.10
Hexagon, plain...	\$5.60
Square, C. T. & R...	\$5.30
Hexagon, C. T. & R...	\$6.00

Oakum

Best or Government...	lb. 6 1/2 c
Navy...	lb. 5 c
U. S. Navy...	lb. 6 c
Plumbers' Spun Oakum...	1 1/2 c
In carload lots 1/2 lb. off f.o.b. New York.	

Oil Tanks—See Tanks, Oil.

Oilers

Brass and Copper...	60¢105
Tin or Steel...	65¢105
Zinc...	65¢105
Chase or Paragon:	
Brass and Copper...	45¢105
Tin or Steel...	65¢105
Zinc...	65¢105
Malleable, Hammers' Improved, No. 1, \$3.00; No. 2, \$4; No. 3, \$4.40 per doz.	30%
Malleable, Hammers' Old Pattern, same list...	50¢105
American Tube & Stamping Co.:	
Spring Bottom Cans...	70¢105
Railroad Oilers etc.	60¢105

Openers—Can

French...	dos. 35¢
Iron Handle...	dos. 25¢37¢
Sprague, Iron Hide, per doz.	35¢40¢
Sardine Scissors...	dos. \$1.75@3.00
National...	50%
Stowell's Sprague...	per doz. 35¢45¢

Nickel Plate

Nickel Plate...	per doz., \$2.00
Silver Plate...	per doz., \$4.00

Packing

Asbestos Packing, Wick and Rope...	1 1/2 1 1/2 1 1/2 lb.
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Rubber

Sheet, C. I...	8¢10¢
Sheet, C. O. S...	9¢10¢
Sheet, C. B. S...	10¢11¢
Sheet, Pure Gum...	60¢65¢
Sheet, Red...	40¢50¢
Jenkins' 1/2 in. 80%	30¢45%

Miscellaneous

American Packing...	70¢100 lb.
Cotton Packing...	10¢15¢ lb.
Italian Packing...	10¢15¢ lb.
Julie...	4¢6¢ lb.
Russia Packing...	8¢11¢ lb.

Pails—Creamery

1 & 2 Co., with gauges, No 1 \$2.25; No. 2, \$2.50 \$3.00.	
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Galvanized

Price per doz.	
Quart...	10 11 12
Water, Regular...	1.50 1.75 2.00
Water, Heavy...	2.75 3.00 3.25
Fire, Rd. Bottom...	2.50 2.80 2.90
Well...	2.55 2.50 2.75

Pans—Dripping

Standard List...	60¢105
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Fry

Common Lipped:	
No. 1 2 3 4 5	
Per doz. \$0.85 1.00 1.10 1.30 1.50	

Roasting and Baking

Regal, S. & Co., 9 doz. Nos. 5 \$4.50; 10 \$5.25; 20 \$5
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Upon Nut Co.:
Boxwood.....doz.60¢to10¢
Ivory.....55¢to35¢to10¢
Sash Balances—See *Balance Sash*.
Sash Locks—See *Locks, Sash*.
Sash Weights—
See *Weights, Sash*.
Sausage Stuffers or Fillers—
See *Stuffers or Fillers, Sausage*.
Saw Frames—See *Frames, Saw*.
Saw Sets—See *Sets, Saw*.
Saw Tools—See *Tools, Saw*.
Saws—
Atkins:—
Circular.....50¢
Band.....50¢to10¢to65¢
Cross Cuts.....36¢to45¢
Mulay, Mill and Drag.....40¢
One-Man Saw.....40¢
Wood Saws.....40¢
Hand, compass, &c.....40¢
Chapin-Stephens Co.:—
Turning Saws and Frames.....50¢to30¢to10¢
Diamond Saw & Stamping Works.....
Sterling Kitchen Saws.....30¢to10¢to5¢
Dialston's:—
Circular, Solid and Inserted Tooth.....50¢
Band, 3 to 14 in. wide.....10¢
Band, 1/4 to 2 1/2.....10¢
Crosscuts.....45¢
Narrow Crosscuts.....50¢
Mulay, Mill and Drag.....50¢
Framed Woodsaws.....35¢
Wood saw Blades.....35¢
Wood saw Rods.....25¢
Hand Saws, Nos. 12, 99, 9, 16, 4100,.....
H, 8, 10, 74, 27, 8.....25¢
Hand Saw, Nos. 1, 107, 107 1/2, 8, 1.....
0, 00, Combination.....30¢
Compass, Keyhole, &c.....35¢
Butcher Saws and Blades.....35¢
C. E. Jennings & Co.'s:—
Back Saws.....25¢
Butcher Saws.....30¢
Compass and Keyhole Saws.....35¢to5¢
Framed Wood Saws.....50¢
Hand Saws.....20¢to4¢
Wood Saw Blades.....35¢
Millers Falls:—
Butcher Saws.....15¢to10¢
Star Saw Blades.....16¢to10¢
Peace & Richardson's Hand Saws.....30¢
Simonds':—
Circular Saws.....50¢
Crescent Ground Cross Cut Saws.....35¢
One-Man Cross Cuts.....40¢to1¢
Gang Mill, Mulay and Drag Saws.....50¢
Band Saws.....50¢
Back Saws.....25¢to7¢to4¢
Butcher Saws.....35¢to3¢to7¢
Hand Saws.....25¢to3¢to4¢
Hand Saws, Bay State Brand.....45¢
Compass, Keyhole, &c.....25¢to2¢to7¢
Wood Saws.....30¢to5¢to7¢
Springfield Mach. Screw Co.:—
Diamond Kitchen Saws.....40¢to10¢to5¢
Butcher Saws Blades.....35¢to40¢
Wheeler, Madden & Clemons Mfg. Co.:—
Wheel.....35¢
Cross Cut Saws.....50¢
Hack Saws—
Atkins' Hack Saw Blades A & A.....25¢
Dialston:—
Concave Blades.....25¢
Keyhole.....40¢
Hack Saw Frames.....30¢
Fitchburg File Works, The Best.....25¢
C. E. Jennings & Co.'s:—
Hack Saw Frames, Nos. 175, 180.....
Hack Saws, Nos. 175, 180, complete.....40¢to7¢
Goodell's Hack Saw Blades.....40¢
Griffin's Hack Saw Frames.....35¢to4¢to10¢
Griffin's Hack Saw Blades.....35¢to5¢to10¢
Springfield Mach. Screw Co.:—
Diamond Hack Saw Blades.....50¢
Diamond Hack Saw Frames.....50¢
Star Hack Saws and Blades.....15¢to10¢
Sterling Hack Saw Blades.....25¢
Sterling Hack Saw Frames.....30¢to10¢to5¢
Scroll—
Barnes' No. 7, 115.....doz.25¢
Barnes' Scroll Saw Blades.....40¢
Barnes' Velociped Power Scroll Saw,
without boring attachment, \$15;.....30¢
with boring attachment, \$30.....30¢
Lester, complete, \$10.00.....15¢to10¢
Rogers, complete, \$4.00.....15¢to10¢
Scales, Fish—
Covert's Saddlery Works.....60¢to10¢
Scales—
Family, Turnbulls.....50¢to50¢to10¢
Counter:—
Hatch, Platform, 400 lbs. doz. \$5.50
Two Platforms, 400 to 8 lbs. doz. \$1.50
Union Platform, Plain.....\$1.70 to \$1.90
Union Platform, Striped \$1.85 to \$1.95
Chattillon's:—
Eureka.....25¢
Favorite.....25¢
Grocers' Trip Scales.....25¢
Chicago Scale Co.:—
The "Little Detective," 25 lbs.....30¢
Union or Family No. 2.....30¢
Portable Platform (reduced list).....30¢
Wagon or Stock (reduced list).....25¢to50¢
The Standard "Portables".....50¢
"The Standard" R. R. and Wagon.....50¢
Scrapers—
Box, 1 Handle.....doz. \$1.00 to \$1.50
Box, 2 Handle.....doz. \$2.00 to \$2.50
Ship.....Light, \$5.00; Heavy, \$1.50
Adjustable Box Scraper (S. R. & L. Co.)
\$4.00.....25¢to30¢
Chapin-Stephens Co., Box.....50¢to30¢to10¢
**Screens, Window, and
Frames**—
Flyer Pattern Screens.....60¢to2¢to5¢to1¢
Maine Screen Frames.....40¢to10¢
Perfection Screens.....60¢to5¢to1¢to3¢
Phillips' Screen Frames.....60¢to5¢to1¢to3¢

Screws—Bench and Hand—

Bench, Iron, doz. 1 in. \$2.50 to \$2.75
 1 1/2, \$3.00 to \$3.25
 Bench, Wood, Beech, doz. 30 to 30 1/2
 Hand, Wood, doz. 30 to 30 1/2
 R. Bliss Mfg. Co., Hand, doz. 30 to 30 1/2
 Chapin-Stephens Co., Hand, doz. 30 to 30 1/2
 Ohio Tool Co., Bench and Hand, doz. 30 to 30 1/2
Coach, Lag and Hand Rail—
 Lag, Common Point, list Oct. 1, 89, 80¢ to 85¢
 Coach and Lag, Gimlet Point, list Oct. 1, '99, 80¢
 Hand Rail, list Jan. 1, '81, 70¢ to 10¢
Jack Screws—
 Standard List, 75¢ to 10¢ to 20¢
 Millers Falls, 50¢ to 10¢ to 20¢
 Millers Falls, Roller, 50¢ to 10¢ to 20¢
 P. S. & W., 50¢ to 10¢ to 20¢
 Sargent, 70¢ to 10¢ to 20¢

Machine—

List Jan. 1, '93,
 Flat or Round Head, Iron, 50¢ to 10¢ to 20¢
 Flat or Round Head, Brass, 50¢ to 10¢ to 20¢
Set and Cap—
 Set (Iron or Steel), 75¢
 Sq. Hd. Cap, 70¢
 Hex. Hd. Cap, 70¢
 Rd. or Filister Hd. Cap 65¢ given.

Wood—

List July 23, 1903,
 Manufacturers' printed discounts:
 Flat Head, Iron, 75¢ to 10¢ to 20¢
 Round Head, Iron, 85¢ to 10¢ to 20¢
 Flat Head, Brass, 85¢ to 10¢ to 20¢
 Round Head, Brass, 90¢ to 10¢ to 20¢
 Flat Head, Bronze, 75¢ to 10¢ to 20¢
 Round Head, Bronze, 75¢ to 10¢ to 20¢
 Drive Screws, 87¢ to 10¢ to 20¢

Scroll Saws—See Saws, Scroll.**Scythes—**

Per doz.
 Clipper Pattern, Grass, \$4.25 to \$5.00
 Full Polished Clipper, \$4.75 to \$5.50
 Grain, \$7.00 to \$7.50
 Clipper, Grain, \$7.75 to \$8.25
 Weed and Bush, \$4.50 to \$5.00

Seeders—

Raisin—
 Enterprise, \$3.50 to \$4.00
Sets—
 Axl and Tool—
 Brad Axl and Tool Sets:
 Wood Hdl., 10 Axl. doz. \$2.00 to \$2.25
 Wood Hdl., 14 Axl., 6 Tools, doz. \$2.50 to \$2.60

Aiken's Sets, Axl and Tool:
 No. 30, \$10.00; No. 1, \$11.00
 Fry's Adj. Tool Hdl. No. 1, \$11.00; No. 2, \$12.00; No. 3, \$13.00
 C. E. Jennings & Co.'s Model Tool Holders, 30¢
 Millers Falls Adj. Tool Hdl. No. 1, \$11.00; No. 2, \$12.00; No. 3, \$13.00
 Stanley's Excelsior:
 No. 1, \$7.50; No. 2, \$4.00; No. 3, \$5.50
 Ft. Madison, Three Piece, Hoe, Rake and Shovel, \$10.00

Garden Tool Sets—

Ft. Madison, Three Piece, Hoe, Rake and Shovel, \$10.00

Nail—

Square, per gro. \$1.25 to \$1.50
 Round, Bk. and Pol., assorted, per gro. \$1.30 to \$1.50
 Octagon, per gro. \$1.50 to \$1.75
 Buck Brothers, 37¢ to 45¢
 Cannon's Diamond Point, \$1.15 to 1.25
 Mayhew's, per gro. \$2.00
 Smith's Cannon's Diamond, \$1.70 to \$1.90
 Smith's Corrugated, Cup Pt., per gro. \$1.70
 Smith's Knurled, Cup Pt., per gro. \$1.70
 Springfield Mach. Screw Co., Diamond Knurled, Cup Pt., per gro. \$1.70

Rivet—

Regular Hat, 75¢ to 75¢ to 10¢

Saw—

Aiken's:
 Genuine, 50¢ to 10¢
 Imitation, 50¢ to 10¢
 Atkin's:
 Criterion, 40¢
 Adjustable, 40¢
 Bemis & Call Co.'s:
 Cross Cut, 30¢
 Flat, 20¢
 Diston's Star and Monarch, 25¢
 Morrill's No. 1, \$15.00; No. 2, \$10.00; No. 3 and 4, \$8.00 to \$10.00
 No. 5, \$11.00 to \$15.00
 No. 6, \$12.00 to \$15.00
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 No. 404, \$410.00 to \$15.00
 No. 405, \$411.00 to \$15.00
 No. 406, \$412.00 to \$15.00
 No. 407, \$413.00 to \$15.00
 No. 408, \$414.00 to \$15.00
 No. 409, \$415.00 to \$15.00
 No. 410, \$416.00 to \$15.00

Tools—Coopers'—

I. & L. J. White	300@900
Hay—	
Myers' Hay Tools	30%
Stowell's Hay Carriers	30%
Stowell's Hay Forks	30%
Stowell's Fork Pulleys	30%

Saw—	
Atkins' Cross Cut Saw Tools	40%
Simonds' Improved	33%
Simonds' Crescent	35%

Ship—	
L. & L. J. White	33%

Transom Lifters—	
See Lifters, Transom	

Traps—Fly—	
Balloon, Globe or Acme	doz. \$1.15 to 1.25; gro. \$11.50 to 12.00
Harper, Champion or Paragon	doz. \$1.25 to 1.40; gro. \$13.00 to 13.50

Game—	
Oneida Pattern	75¢ to 10¢ to 10¢ to 5¢
Newhouse	45¢ to 45¢ to 5¢
Hawley & Norton	65¢ to 65¢ to 5¢
Victor (Oneida Pattern)	75¢ to 75¢ to 5¢
O.C. Jump (Blake Pattern)	60¢ to 60¢ to 10¢

Mouse and Rat—	
Mouse, Wood, Choker, doz. holes	8¢ to 8¢
Mouse, Round or Square Wire	doz. 85¢ to 90¢

Marty French Rat and Mouse Traps	
(Genuine)	
No. 1, Rat, Each \$1.15; doz. \$12.00	
No. 2, Rat, doz. \$6.00; case of 50	
No. 3, Rat, doz. \$1.75; case of 75	
No. 4, Mouse, doz. \$3.50; case of 7	
No. 5, Mouse, doz. \$2.75; case of 150	

Trimmers, Spoke—	
Wood's E. I.	30%

Trowels—	
Dixson Brick and Pointing	30%
Dixson Plastering	35%
Dixson "Standard Brand" and Gar-	
den Trowels	35%
Kohler's Steel Garden Trowels, 5 in.	
doz. \$1.50	
Kohler's Steel Garden Trowels, 6 in.	
doz. \$2.00	
Never-Break Steel Garden Trowels	
doz. \$2.50	
Rose Brick and Plastering	35%
Woodrugh & McParlin, Plastering	35%

Trucks, Warehouse, &c.—	
B. & L. Block Co.	30% to 10%
New York Factors	30% to 10%
Western Pattern	30% to 10%
Handy Trucks	per doz. \$16.00
Grocery	per doz. \$15.00
Daisy Stove Trucks, Improved pattern	
doz. \$18.50	
Model Stove Trucks	doz. \$18.50

Tubs, Wash—No. 1	
Galvanized, per doz. \$3.75	
Galvanized Wash Tubs (S. & Co.)	
No. 1, 2, 3, 10, 20, 30	
Per doz., net \$3.70 to 3.80	

Twine—Miscellaneous—	
Flax Twine—	
No. 9, 14 and 1/2-lb. Balls	80¢ to 75¢
No. 12, 14 and 1/2-lb. Balls	18¢ to 30¢
No. 15, 14 and 1/2-lb. Balls	16¢ to 18¢
No. 25, 14 and 1/2-lb. Balls	16¢ to 18¢
No. 25, 14 and 1/2-lb. Balls	16¢ to 17¢
Chalk Line, Cotton, 1/2-lb.	
Balls	30¢
Cotton Mops, 6, 9, 12 and 15 lb. to	
doz.	90¢ to 11¢
Cotton Wrapping 5 Balls to lb.	
according to quality	11¢ to 30¢
American 3-Ply Hemp, 1/4 and 1/2-lb.	
Balls	15¢ to 11¢

Wads—Price Per M.	
B. E., 11 up	60¢
B. E., 9 and 10	70¢
B. E., 8	80¢
B. E., 7	80¢
P. E., 11 up	\$1.00
P. E., 9 and 10	1.25
P. E., 8	1.50
P. E., 7	1.50
Ely's B. E., 11 and larger	\$1.70 to 1.75
Ely's P. E., 12 to 20	\$3.00 to 3.75

Ware, Hollow—	
Cast Iron, Hollow—	
Stove Hollow Ware	
Enameled	55¢ to 60¢
Ground	60¢ to 65¢
Plain or Unground	65¢ to 70¢

Washers—Leather, Axle—	
Solid	80¢ to 10¢ to 10¢ to 10%
Patent	90¢ to 90¢ to 5%
Coil:	1/4 1 1/4 1 1/4 1/4
11c 12c 13c 11c per doz	

Iron or Steel—	
Size bolt	5-16 3/4 1/2 3/4 1/2
Washers	\$5.00 4.10 3.80 2.60 2.10
In lots less than one keg add 1/4¢ per	
lb., 5-lb. boxes add 1/4¢ to list.	

Cast Washers—	
Over 1/2 inch, barrel lots, per lb. 1/4¢ to 30	

Wedges—	
Oil Finish	1/2 lb. \$2.50 to 3.00

Weights—	
Hitching—	
Covert Mfg. Co.	30%
Covert's Saddlery Works	30%

Sash—	
Per ton, f.o.b. factory:	
Eastern District	\$25.00
Western, Central and Southern	
Districts market unsettled,	
prices ranging from \$17.50 to 19.00	

Wheels, Well—	
8-in., \$1.80 to 1.90; 10-in., \$2.00 to 2.25;	
12-in., \$2.45 to 2.65; 14-in., \$3.00 to 3.25	

Wire and Wire Goods—	
Bright and Annealed:	
6 to 9	75¢ to 75¢ to 10%
10 to 18	75¢ to 75¢ to 10%
19 to 26	75¢ to 75¢ to 10%
27 to 36	75¢ to 75¢ to 10%

Galvanized:	
6 to 9	70¢ to 70¢ to 10%
10 to 18	70¢ to 70¢ to 10%
19 to 26	70¢ to 70¢ to 10%
27 to 36	70¢ to 70¢ to 10%

Coppered:	
6 to 9	70¢ to 70¢ to 10%
10 to 18	70¢ to 70¢ to 10%
19 to 26	70¢ to 70¢ to 10%
27 to 36	70¢ to 70¢ to 10%

Tinned:	
6 to 15	75¢ to 75¢ to 10%
15 to 18	70¢ to 70¢ to 10%
19 to 26	65¢ to 65¢ to 10%
27 to 36	60¢ to 60¢ to 10%

Annealed, Steel and Tinned, on	
Spools.	70¢ to 70¢ to 10%
Brass & Copper on Spools	60¢ to 10%
Brass, list Feb. 26, '90	30%
Copper, list Feb. 26, '90	15%
Cast Steel Wire	50%
Wire Clothes Line, see Lines	
Wire Picture Cord, see Cord	

Bright Wire Goods—	
List June 24, 1903	30¢ to 10¢ to 90¢ to 10%

Wire Cloth and Netting—	
Galvanized Wire Netting	
80¢ to 10¢ to 80¢ to 10%	
Painted Screen Cloth, per 100 ft. \$1.25	
Standard Galv. Hardware Grade:	
Nos. 2, 3, 4 and 5 Mesh, sq. ft.	3c
Nos. 6 and 8 Mesh, sq. ft.	3 1/2c
No. 10 Mesh, sq. ft.	3 1/2c
No. 12 Mesh, sq. ft.	4c

Wire Barb—See Trade Report.	
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Wrenches—	
Agricultural	75¢ to 10¢ to 75¢ to 10%
Aligner	70%
Baxter Pat'n S Wrenches	70%
Drop Forged S.	70%
Acme	80¢ to 10%
Aligner Pattern	70%
Bull Dog	70%
Bemis & Call's	40%
Adjustable S. Pipe	40%
Bemis Pipe	40%
Briggs' Pattern	40%
Combination Black	40%
Combination Bright	40%
Merrick's Pattern	50%
Boardman's	35%
Cos' Genuine Knife Hilt	40%
Cos' Genuine Steel Hilt	40%
Cos' Genuine Key Model	40%
Cos' "Mechanics"	40%
Donohue's Engineer	40%
Eagle	50%
Elgin Wrenches	40%
Elgin Monkey Wrench Pipe Jaws	35%
Gem Pocket	70%
Hercules	70%
W. & B. Machinist	30%
Case lots	30%
Less than case lots	50%
Improved Pipe (W. & B.)	60%
Solid Handles, P. S. & W.	80%
Silber	50%
Vulcan Chain	50%

Wrought Goods—	
Staples, Hooks, etc., list March 17	
90	90¢ to 90¢ to 5%

Yokes Neck—	
Covers Saddlery Works, Trimmed	70%
Covers Saddlery Works, Neck Yoke	70%
Centers	70%

Yokes, Ox, and Ox Bows—	
Fort Madison's Farmers & Freighters	
list net	

Zinc—	
Sheet	per 100 lbs. \$6.35 to \$6.60

White Lead, Zinc, &c.	
Lead, English white, in Oil	9 1/2¢ to 9 1/2¢
Lead, American White, in Oil	9 1/2¢ to 9 1/2¢
Lots of 500 lb or over	6 1/2¢
Lots less than 500 lb	7 1/2¢
In Barrels	6 1/2¢
Lead, White, in oil, 25 lb tin	
pails, add to keg price	3 1/2¢
Lead, White, in oil, 15 lb tin	
pails, add to keg price	3 1/2¢
Lead, White, in oil, 10 lb tin	
sorted tin, add to keg price	1 1/2¢
Lead, American, Terms. For lots 12 tons	
and over 1/2 rebate; and 2% for cash	
if paid in 15 days from date of invoice;	
for lots of 500 lbs. and over 2% for cash	
if paid in 15 days from date of invoice;	
for lots of less than 500 lbs. net.	
Lead White, Dry in bbls.	6 1/2¢
Zinc, American, dry	4 1/2¢ to 4 1/2¢
Zinc, French:	
Paris, Green Seal, dry	7 1/2¢
Antwerp, Green Seal, dry	9 1/2¢
Antwerp, Green Seal, dry	9 1/2¢
Zinc, V. M. French, in Poppy Oil	8 1/2¢
Green Seal:	
Lots of 1 ton and over	11 1/2¢ to 11 1/2¢
Lots of less than 1 ton	11 1/2¢ to 11 1/2¢
Zinc, V. M. French, in Poppy Oil	8 1/2¢
Red Seal:	
Lots of 1 ton and over	10 1/2¢ to 10 1/2¢
Lots of less than 1 ton	10 1/2¢ to 10 1/2¢
Discounts—French Zinc—Discounts to	
buyers of 10 bbls, lots of one or mixed	
grades, 1% to 5%; 50 bbls, 4%.	

Dry Colors.	
Black, Carbon	3 1/2¢ to 4 1/2¢
Black, Drop, Amer.	4 1/2¢ to 4 1/2¢
Black, Drop, Eng.	4 1/2¢ to 4 1/2¢
Black, Ivory	16 1/2¢ to 16 1/2¢
Lamp, Com.	4 1/2¢ to 4 1/2¢
Blue, Celestial	4 1/2¢ to 4 1/2¢
Blue, Chinese	30 1/2¢ to 30 1/2¢
Blue, Prussian	27 1/2¢ to 27 1/2¢
Blue, Ultramarine	4 1/2¢ to 4 1/2¢
Brown, Spanish	1 1/2¢ to 1 1/2¢
Carmine, No. 40	2 1/2¢ to 2 1/2¢
Green, Chrome, ordinary	3 1/2¢ to 3 1/2¢

Green, Chrome, pure.	17 1/2¢ to 17 1/2¢
Lead, Red, bbls. 1/2 bbls. and kegs:	
Lots 500 lb or over	6 1/2¢
Lots less than 500 lb	7 1/2¢
Litharge, bbls. 1/2 bbls. and kegs:	
Lots 500 lb or over	6 1/2¢
Lots less than 500 lb	7 1/2¢
Ocher, American	10 1/2¢ to 10 1/2¢
Ocher, American Golden	2 1/2¢ to 2 1/2¢
Ocher, French	10 1/2¢ to 10 1/2¢
Ocher, Foreign Golden	3 1/2¢ to 3 1/2¢
Orange Mineral, English	10 1/2¢ to 10 1/2¢
Orange Mineral, French	10 1/2¢ to 10 1/2¢
Orange Mineral, German	7 1/2¢ to 7 1/2¢
Orange Mineral, American	8 1/2¢ to 8 1/2¢
Red, Indian, English	4 1/2¢ to 4 1/2¢
Red, Indian, American	3 1/2¢ to 3 1/2¢
Red, Turkey, English	4 1/2¢ to 4 1/2¢
Red, Tuscan, English	7 1/2¢ to 7 1/2¢
Red Venetian, Amer.	10 1/2¢ to 10 1/2¢
Red Venetian, English	10 1/2¢ to 10 1/2¢
Sienna, Italian, Burnt and	
Powdered	3 1/2¢ to 3 1/2¢
Sienna, Ital., Raw, Powd.	3 1/2¢ to 3 1/2¢
Sienna, American, Raw	1 1/2¢ to 1 1/2¢
Powdered	1 1/2¢ to 1 1/2¢
Talc, French	1 1/2¢ to 1 1/2¢
Talc, American	7 1/2¢ to 7 1/2¢
Terra Alba, French	10 1/2¢ to 10 1/2¢
Terra Alba, English	10 1/2¢ to 10 1/2¢
Terra Alba, American No. 1	60 1/2¢ to 60 1/2¢
Terra Alba, American No. 2	35 1/2¢ to 35 1/2¢
Umber, Turkey, Raw & Powd.	2 1/2¢ to 2 1/2¢
Umber, Turkey, Raw & Powd.	2 1/2¢ to 2 1/2¢
Umber, Bnt. Amer.	1 1/2¢ to 1 1/2¢
Umber, Raw, Amer.	1 1/2¢ to 1 1/2¢
Yellow, Chrome	11 1/2¢ to 11 1/2¢
Vermilion, American Lead	10 1/2¢ to 10 1/2¢
Vermilion, Quicksilver, bag	9 1/2¢ to 9 1/2¢
Vermilion, English, Import	75 1/2¢ to 75 1/2¢
Vermilion, Chinese	90 1/2¢ to 90 1/2¢

Colors in Oil.	
Black, Lampblack	13 1/2¢ to 13 1/2¢
Black, Chinese	36 1/2¢ to 36 1/2¢
Blue, Prussian	27 1/2¢ to 27 1/2¢
Blue, Ultramarine	13 1/2¢ to 13 1/2¢
Brown, Vandyke	11 1/2¢ to 11 1/2¢

Green, Chrome, pure.	10 1/2¢ to 10 1/2¢
Green, Paris	12 1/2¢ to 12 1/2¢
Sienna, Raw	12 1/2¢ to 12 1/2¢
Sienna, Burnt	12 1/2¢ to 12 1/2¢
Umber, Raw	11 1/2¢ to 11 1/2¢
Umber, Burnt	11 1/2¢ to 11 1/2¢

Miscellaneous.	
Barytes, White Foreign	\$17.50 to \$20.00
Barytes Amer. floated	18.50 to 20.00
Barytes, Crude, No. 1	10.00 to 11.00
Chalk, in bulk	9.00 to 9.25
Chalk, in bbls.	9.00 to 9.25
China Clay, English	11.00 to 17.00
Cobalt Oxide	100 lb \$3.00
Whiting, Common	100 lb \$4.50
Whiting, Gliders	55 1/2¢ to 57
Whiting, extra Gliders	58 1/2¢ to 60

Putty.	
In bladders	13 1/2¢ to 13 1/2¢
In bulk	13 1/2¢ to 13 1/2¢
In cans 1 lb to 5 lb	3 1/2¢ to 4 1/2¢
In cans 12 1/2 lb to 25 lb	12 1/2¢ to 12 1/2¢

Spirits Turpentine.	
In Oil bbls.	56 1/2¢ to 57 1/2¢
In machine bbls.	57 1/2¢ to 57 1/2¢

Glue.	
Cabinet	7 1/2¢ to 11 1/2¢
Common Bone	6 1/2¢ to 6 1/2¢
Extra White	18 1/2¢ to 18 1/2¢
Foot Stock, White	11 1/2¢ to 11 1/2¢
Foot Stock, Brown	7 1/2¢ to 7 1/2¢
German Glides	12 1/2¢ to 12 1/2¢
French	10 1/2¢ to 10 1/2¢
Irish	13 1/2¢ to 13 1/2¢
Low Grade	8 1/2¢ to 8 1/2¢
Medium White	14 1/2¢ to 14 1/2¢

Cum Shellac.	
Bleached, Commercial	45 1/2¢ to 45 1/2¢
Bone Dried	35 1/2¢ to 35 1/2¢
Button	45 1/2¢ to 45 1/2¢
Diamond	60 1/2¢ to 60 1/2¢
Fine Orange	22 1/2¢ to 22 1/2¢
A. C. Garnet	45 1/2¢ to 45 1/2¢
D. C. Garnet	35 1/2¢ to 35 1/2¢
Octagon B.	35 1/2¢ to 35 1/2¢
T. N.	40 1/2¢ to 40 1/2¢
V. S. O.	35 1/2¢ to 35 1/2¢

Blue, Celestial.....	7 1/2 @ 6
Blue, Chinese.....	20 @ 38
Blue, Prussian.....	27 @ 30